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TIMES

THE JOURNAL OF GENERAL PRACTICE

New Developments in 1950
Subacute Bacterial Endocarditis
Chronic Congestive Failure
Hypertrophic Pyloric Stenosis
"Rheumatoid" Arthritis
Dermatology
Office Surgery
Nutrition
Editorials
Medical Sociology
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VOL. 79 FEBRUARY 1951 NO. 2

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1. Heins, H. C., Jr.: J. South Carolina M. A. 46:309, 1950.

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CONTENTS

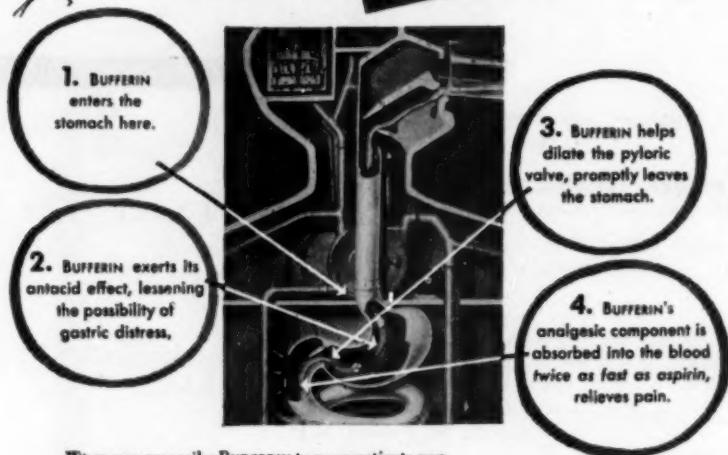
Feature Articles	Subacute Bacterial Endocarditis	63
	H. F. DeFeo M.D., F.A.C.P., F.A.C.C.P.	
	Chronic Congestive Failure	83
	Aaron E. Parsonnet, M.D.	
	Arthur Bernstein, M.D., F.A.C.P. Emanuel Kiosk, M.D.	
	Congenital Hypertrophic Pyloric Stenosis	88
	Gregory L. Robillard, M.D., F.A.C.S.	
	Gabriel F. Cucolo, M.D.	
	John W. Friend, M.D.	
Special Article	Therapy and Diagnosis	67
	A Review of New Developments in 1950	
Therapeutics	Atopic Arthritis	94
	Robert D. Barnard, M.D.	
	Louis R. Orens, M.D.	
Dermatology	Gramoderm Therapy in Skin Diseases	97
	William Saunders, M.D.	
Nutrition	Honey—Its Role in Medicine	104
	Frances I. Seymour, M.D.	
	Katherine S. West, M.A.	

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J. Am. Pharm. A., Sc. Ed. 39:21, Jan. 1950.

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CONTENTS

Office Surgery	Abscesses of the Finger	101
Medical Sociology	"Federal Efficiency?"	108
	Louis B. Gloyne, M.D.	
Editorials	The Fourth Annual Clinical Session of the American Medical Association	111
	GP, Savior of Medicine	111
	Prognosis	112
	Greatest of Paradoxes	112
Contemporary Progress	Neurology	113
	Harold R. Merwarth, M.D., F.A.C.P.	
	Public Health	116
	Earle G. Brown, M.D.	
	Letters to the Editor	30a
	Modern Medicinals	42a
	Modern Therapeutics	56a
	News and Notes	72a
	Classified Advertising	86a



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*Overman, W. J.; Gordon, W. H., and Burch, G. E.: Tracer Studies of the Urinary Excretion of Radioactive Mercury following administration of a Mercurial Diuretic, *Circulation* 1:496, 1954.

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MEDICAL BOOK NEWS

Pediatrician's Autobiography	From the Hills. An Autobiography of a Pediatrician; by John Zahorsky, M.D.	119
De Kruif On Doctors	Life Among the Doctors; by Paul de Kruif in collaboration with Rhea de Kruif	119
Head Injuries	Acute Injuries of the Head. Their Diagnosis, Treatment, Complications and Sequels; by G. F. Rowbotham	120
Medical Biophysics	Applied Biophysics. Survey of Physical Methods Used in Medicine. A Symposium; Edited by N. Howard-Jones	120
Leprosy	Who Walk Alone; by Perry Burgess	122
Radium Therapy	Radium Therapy. Its Physical Aspects; by C. W. Wilson, M.Sc.	122
Blood Atlas	An Atlas of the Blood and Bone Marrow; by R. Philip Custer, M.D.	124
Gynecology	A Textbook of Gynecology; by A. H. Curtis, M. D. and J. W. Huffman, M.D.	124
Christopher's Surgery	A Textbook of Surgery; by American Authors. Edited by Frederick Christopher, M.D.	124

OBSTETRICAL &
GYNECOLOGICAL
SURVEY

"... these statistics are the best that have been reported. In fact, they couldn't be any better."

Editor: Obstetrical & Gynecological Survey
Vol. 4, No. 2: April, 1949; page 190

These statistics referred to are those reported by Dr. D. W. Smith in her article, "Diethylstilbestrol in the Prevention and Treatment of Complications of Pregnancy", in the November, 1948, issue of *The American Journal of Obstetrics and Gynecology*. This study of 632 pregnancies showed that, "under stilbestrol treatment the habitual aborter enjoys the same outlook for a living baby as does the average gravida. This is what I mean by saying that these statistics are the best that have been reported".

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REFERENCES

1. Editor: Obs. and Gyn. Survey, 56, 821-834, Nov. 1942.
2. Karnaky, K. J. Estrogenic Tolerance in Pregnant Women. *Amer. Jr. Obs. and Gyn.* 53, 312-316, 1947.
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5. Hambien, E. O. *Endocrinology of Woman*, Springfield, Ill. Charles E. Thomas, 1948, p. 476.

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J.A.M.A. 140:872 (June 22) 1949

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Waife, S. O.: Medical Clinics of North America, p. 1718, November 1949.

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Reh fuss, M.R. et al: A Course in Practical Therapeutics (1948)

Goodman, L. & Gilman, A.: The Pharmacological Basis of Therapeutics (1941)

Sollmann, T.: A Manual of Pharmacology, 7th Ed. (1948) Useful Drugs, 14th Ed. (1947)

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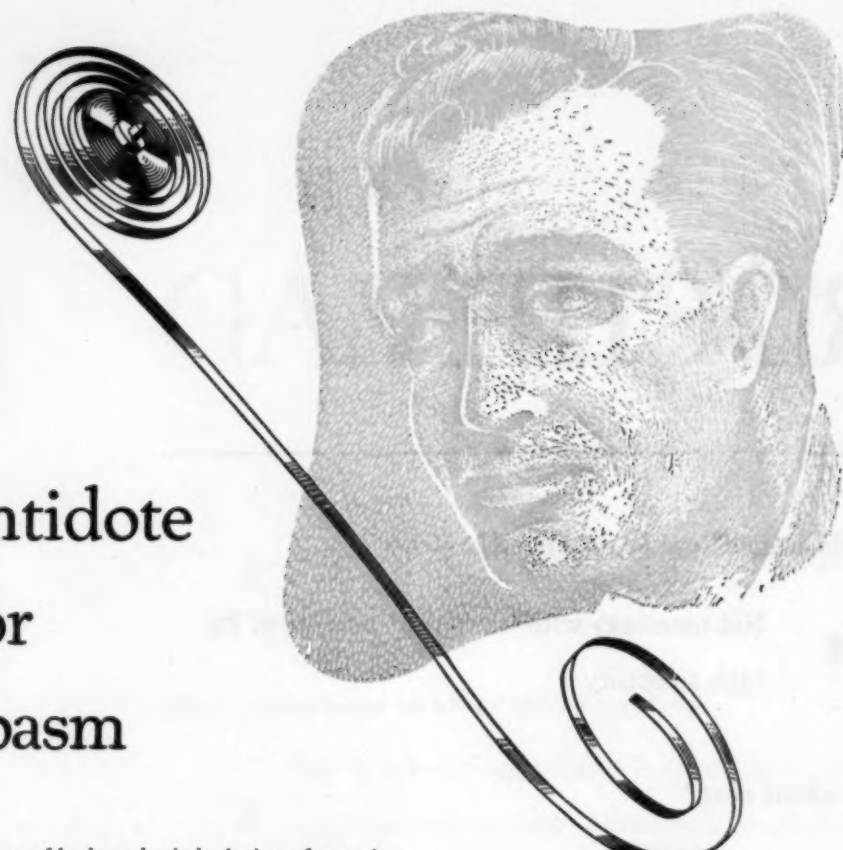
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*"Evaluation of Hydrophilic Properties of Bulk Laxatives Including the New Agent, Sodium Carboxymethylcellulose," Blythe, Rudolph H., Galesich, John J., and Tutthill, Harlan L., Scientific Edition, Journal of American Pharmaceutical Association, February, 1949.





PROTAMIDE... *Again Confirmed* **IN CLINICAL TESTS AT BETHESDA** **NAVAL HOSPITAL for** **HERPES ZOSTER**

William C. Marsh, Commander (MC) U.S.N. in a currently published paper,¹ "Treatment of Herpes Zoster With Protamide," which is now available to physicians as a reprint, presents these findings:

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Of the thirty-one cases—twenty-six were relieved of pain in twenty-four hours to four days. Four cases required longer treatment for complete relief. In only one case was pain relief incomplete. (This case may have presented post-herpetic neuralgia, as pain was present for five weeks before treatment. More prolonged therapy is indicated in such cases.)

"The relief of pain was superior to that obtained when using either pituitrin, thiamine chloride, autohemotherapy, sodium iodide or high voltage roentgen therapy. Further, vesicles

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¹U.S. Armed Forces Med. Journal, September, 1950

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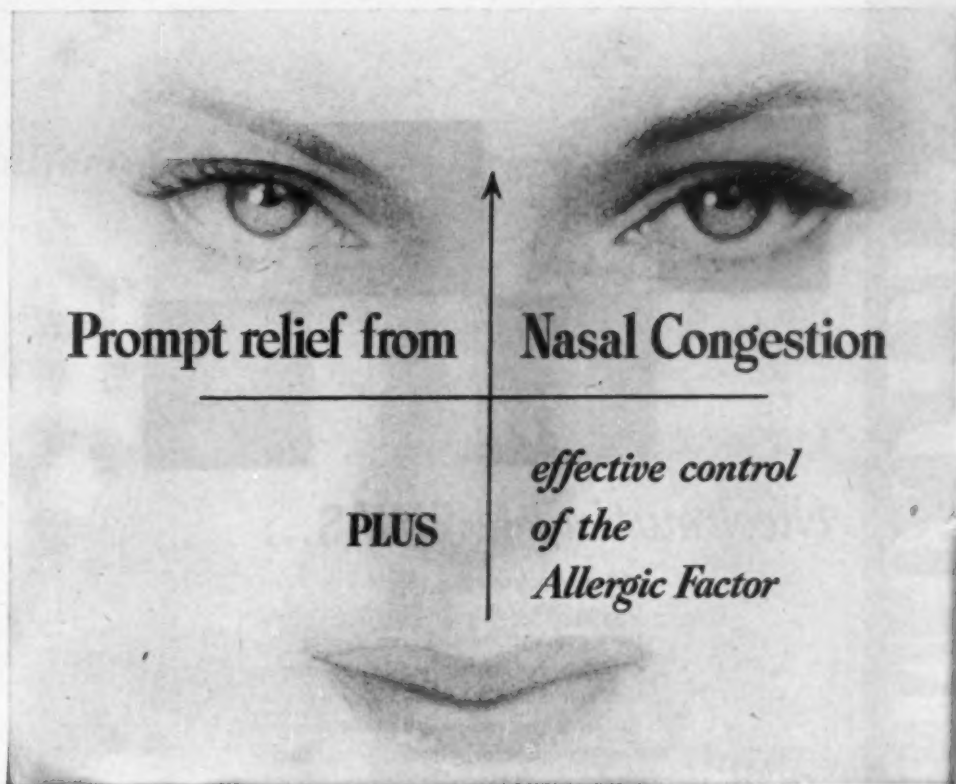
"And the technician seemed hardly to be there. After connecting me she stood in one spot and just touched one or two things on the top of the machine... before I knew it the test was over! The technicians at the other places always seemed literally to be dashing about. They really should get a machine like Dr. Decatur's. Believe me, I *know* the patients would like it better, for the Metabulator has certainly proved to me that a metabolism test doesn't *have* to be an ordeal."

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1. Postgrad. Med. 4:413, 1948. • 2. M. Rec. & Ann. 42:573, 1948. • 3. Am. Pract. 2:643, 1948.

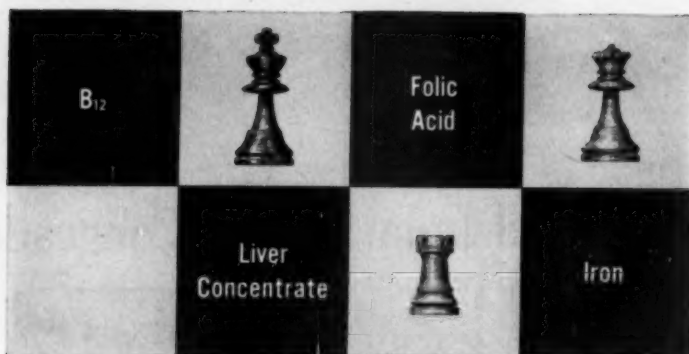
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For greater clinical safety plus the advantages of more rapid absorption, better tissue distribution and faster therapeutic effect.

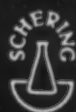
TRICOMBISUL Tablets, 0.5 Gm. total sulfonamides, each tablet containing 0.166 Gm. of *sulfacetimide*, *sulfadiazine* and *sulfamerazine*.

TRICOMBISUL Liquid, 0.5 Gm. total sulfonamides (0.166 Gm. each of *sulfacetimide* [solubilized], *sulfadiazine* and *sulfamerazine*) per teaspoonful (4 cc.).

*T.M.

Schering CORPORATION • BLOOMFIELD, NEW JERSEY

TRICOMBISUL



THE RIDDLE OF ALLERGY

MEDICAL RESEARCH has not yet found the answer to the riddle why the proteins, carbohydrates, lipids, and haptens that leave the nonsensitive unaffected, produce the symptoms of allergy in the hypersensitive.

When the reaction capacity of the individual to the specific substance becomes altered, a teaspoonful of milk or a tenth of a grain of a drug or other substance ingested may evoke an eruption on the skin. The fact that this occurs from such small doses when an idiosyncrasy exists, while larger quantities of the same substance do not give rise to symptoms in the nonsensitive, is evidence that the allergic reaction is not a manifestation of "poisoning," because a toxic substance affects everyone always the same way.

Logically viewed, the blame is not attributable to the substance to which the individual is sensitized. The allergen precipitates a reaction only when an "abnormality" exists as a result of an altered biochemical response. An analogy may be found in color blindness: the cause of the defective visual perception is not to be found in the color or its pigment components; the fault lies in the changed reactive mechanism of the achromatopsic individual.

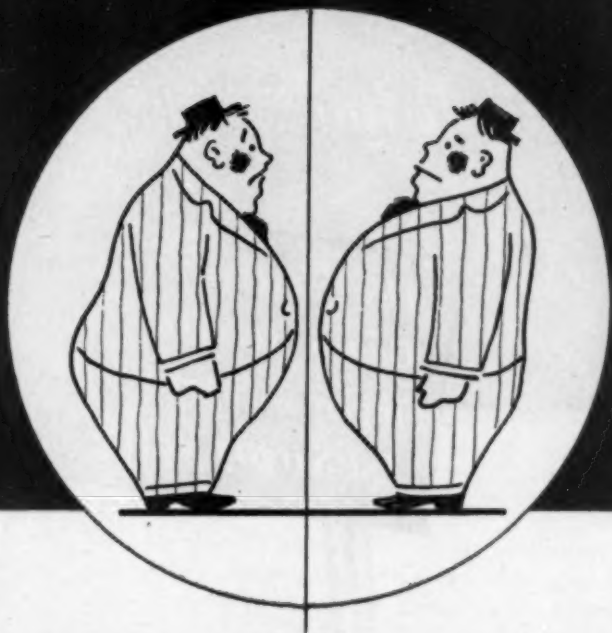
The role of drugs as allergens has probably been overemphasized. That drug eruptions are far less frequent than dermatoses from other causes is evident from the records of large clinics. Diagnosis

by assumption may involve phenolphthalein, because its extensive use as a laxative gives occasion for the factor of coincidence. Where a provocative test is applied, however, phenolphthalein is usually eliminated as the causative influence. As a matter of fact, from clinical experience, statistical proof is accumulating that the incidence of rash from phenolphthalein is relatively much lower than from numerous other drugs.

It is noteworthy that when consideration is given to the fact that phenolphthalein is one of the most extensively used laxatives, aggregating hundreds of millions of doses annually, the relative incidence of allergic reaction from phenolphthalein fades into insignificance.

Nearly a half century of use has proved phenolphthalein a safe laxative in a wide range of dosage. To assure uniform action, the phenolphthalein used in Ex-Lax is biologically standardized and is made available in a chocolate base that imparts unusual palatability. Many physicians recognize the convenience and therapeutic merit of Ex-Lax as a dependable "moderate" laxative and use it in their practice for adults and children.

A supply of Ex-Lax, and abstract of an article reviewing the present knowledge concerning phenolphthalein, will be gladly sent to physicians on request. Ex-Lax, Inc., Brooklyn 17, N. Y.



Double THE POWER TO RESIST FOOD IN *Obesity*

The double trouble in managing obese patients is a twin torment of appetite and bulk hunger. One might successfully depress appetite, but the intense, gnawing hunger and sense of emptiness which besets many obese patients on a restricted diet cannot be easily controlled by the will alone.

OBOCELL—a combined hunger and appetite depressant—doubles the power of resistance and makes adherence to a restricted diet much easier for more prolonged periods because both bulk hunger and appetite are treated synonymously.

OBOCELL supplies methylcellulose (150 mg.), an indigestible, non-nutritive bulking agent, plus dextro-amphetamine phosphate (5 mg.), the most potent agent to curb the appetite. Supplied: Bottles of 100, 500, 1000 at prescription pharmacies everywhere.

Obocell

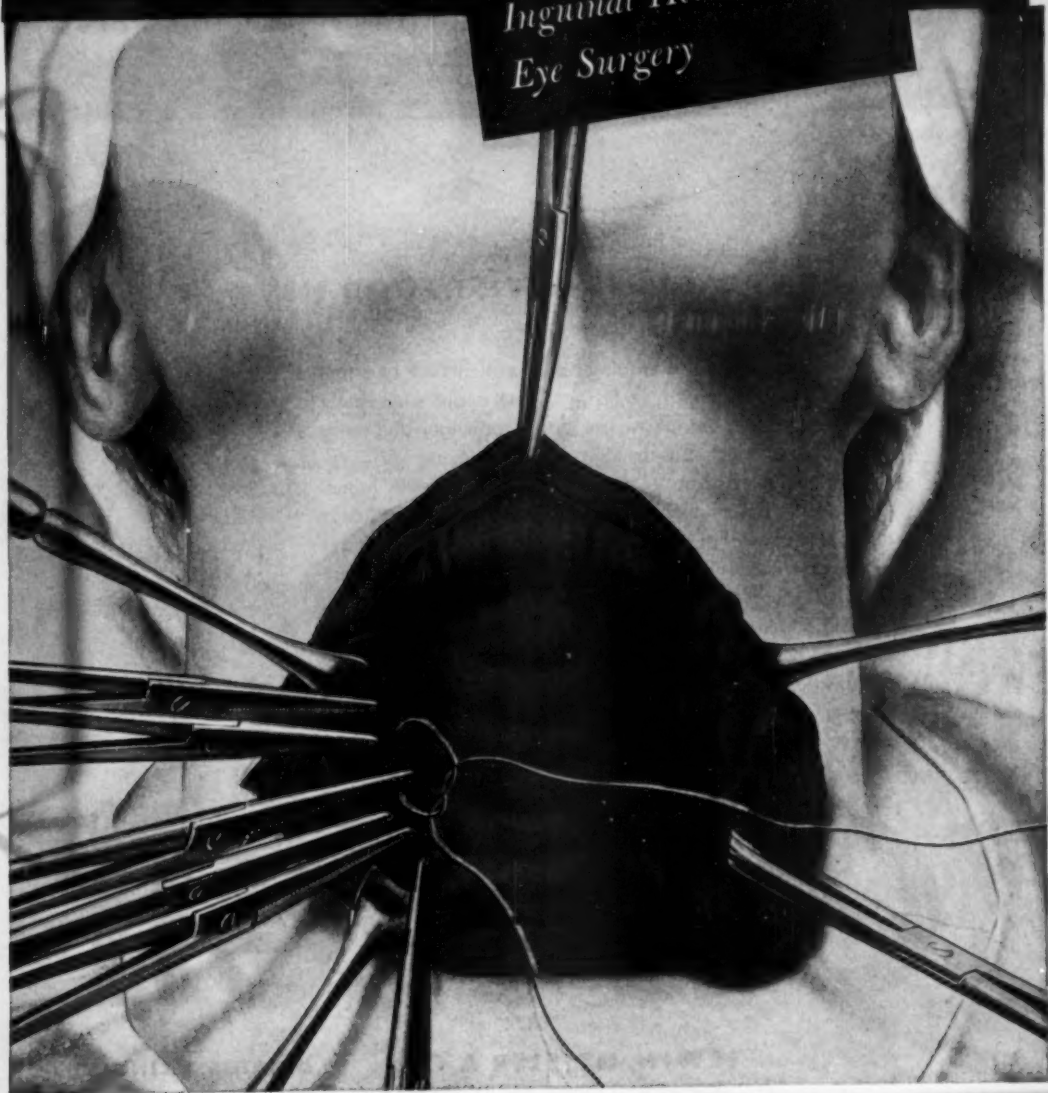
IRWIN, NEISLER & CO.



DECATUR, ILLINOIS

"silk technic"

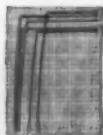
Thyroidectomy
Gastric Resection
Inguinal Herniorrhaphy
Eye Surgery



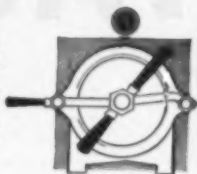
ANACAP

5 ways better than ever before

- 1 Greater tensile strength:** One of the strongest silks ever created — smaller diameter sizes can be used everywhere to minimize trauma and foreign body reaction.



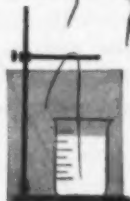
- 2 Withstands repeated sterilization:** New Anacap Silk can be boiled or autoclaved *six separate times* without appreciable change in either strength or texture. In laboratory tests almost the full original strength is maintained even after 23½ hours of boiling.



- 3 Easier to handle:** Firmer, not limp, Anacap Silk speeds operative technic. Braided by a new method that minimizes "splintering" and "whiskering" it passes readily through tissues. The ease of handling Anacap makes it a "new experience" in silk suturing.



- 4 Absolute non-capillarity:** Having no wick-like action, new Anacap Silk is resistant to body fluids and will not spread an early localized infection if it occurs.



- 5 Doubly economical:** Low in original purchase price, new Anacap Silk is also low in individual suture cost because of its long sterilization life.

In sizes 6-0 to 5 on spools of 25 and 100 yards; sterile in tubes with and without D & G Atraumatic® needles attached.

DAVIS & GECK, INC.

57 Willoughby Street



Brooklyn, 1, N. Y.

A
Cholecystopaque
with
minimum



SIDE EFFECTS

Monophen

Modern **MONOPHEN** reduces to an absolute minimum the cramps, diarrhea, dysuria, and other side reactions heretofore associated with present cholecystographic procedure. In addition, **MONOPHEN** provides a diagnostic trustworthiness attested to by its use in over 3000 cases* . . . with complete confirmation of those cases where surgical intervention was recommended.

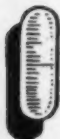
Normal **MONOPHEN** cholecystograms are uniformly excellent, reveal homogeneous opacity and adequate contraction after the fat meal.

• **MONOPHEN** is 2-(4-hydroxy-3, 5-diiodo-benzyl)-cyclohexane carboxylic acid, containing 52.2% iodine in stable combination.

• **SUPPLIED IN BULK:** Capsules (0.5 gram each) are cellophane-sealed in units of 2's and boxed in quantities of 50, 100, 250, 500 and 1000, with a requisite number of dispensing envelopes imprinted with directions for use.

*Preliminary
report
available.

Write for samples



NATIONAL SYNTHETICS, INC.
270 LAFAYETTE STREET, NEW YORK 12, N. Y.

"Dependability Through the Years"

When the diagnosis is **Pyelitis**

First:

consider



to establish
and maintain
urinary antisepsis...

To establish and maintain urinary antisepsis, MANDELAMINE* is many times preferred because it is quickly effective against the organisms most commonly encountered in urinary-tract infections. Its exceptional freedom from untoward reactions and its wide range of antibacterial activity commend it for use as soon as the diagnosis has been made.

Urinary antisepsis is often achieved in uncomplicated pyelitis in as few as three days. Speedy recovery is thus secured in many cases without necessitating higher-cost therapy.

Renal insufficiency is the only major contraindication to MANDELAMINE therapy.

MANDELAMINE is available in bottles of 120, 500, and 1,000 enteric-coated tablets, through all prescription pharmacies. Comprehensive literature and samples for clinical trial will be furnished to physicians on request.



NEPERA CHEMICAL CO., INC.
Pharmaceutical Manufacturers
NEPERA PARK, YONKERS 2, N. Y.

*MANDELAMINE is the registered trademark of Nepera Chemical Co., Inc., for its brand of methanesulfonamide mandelate.

LETTERS TO THE EDITOR

This department is offered as an Open Forum for the discussion of topical medical issues. All letters must be signed. However, to protect the identity of writers, who are invited to comment on controversial subjects, names will be omitted when requested.

M. T. LAUDED

"I was pleased to receive a copy of your new **MEDICAL TIMES**. It may well fill the gap which has remained open so long in our present medical literature. I was particularly pleased with the special article on the cardiac arrhythmias

as a review article. The several short but interesting articles also impressed me. Publishing this type of article may well be the stimulus that the busy practitioner needs to encourage him to write up some of his interesting studies and cases. I am sure many more men would contribute to medical literature if they felt they did not have to write articles as long and detailed, and often superfluous, as now appear in most of the other recognized medical journals.

"I wish to thank the editorial staff for abstracting my article. The pertinent points were well brought out.

"I am also interested in knowing your subscription rates."

John M. Lynch, M. D.
Medical Director
General Motors Corporation
Technical Center
Warren, Michigan

—Continued on page 50a

in the adolescent
tragedy of
acne
.....



collo-sul
Cream
plays a happy role
..... equally valuable in
seborrhea

sulfur at its best...

superfine colloidal sulfur in a special water-miscible base assures...

- maximum sulfur contact and benefits • better keratoplastic effect
- improvement usual within days • help in clearing up lesions with minimum scarring

gentle cleansing action... collo-sul cream may be used to replace soap. Forms a gentle lather with water which cleanses without irritation.

clean, greaseless, vanishing, collo-sul cream is agreeable to use. Make-up can be applied over it to mask embarrassing blemishes.

samples and literature yours for the asking

CROOKES LABORATORIES, INC.



305 EAST 45 ST., NEW YORK, N. Y.

OBESITY MANAGEMENT

*"judiciously and with regard to
physiologic laws"*

"The obese person's weight can be reduced by forcing him to burn his own body fat. This is accomplished by curtailing the intake of food...judiciously and with regard to physiologic laws. Therefore in restricting the food, precautions should be taken to guard against...mineral, vitamin deficiency...the distress of great hunger and profound weakness."

McLester, J.S.: Nutrition and Diet in Health and Disease, pp. 412-413, 1949.

AM PLUS—based on this latest concept of obesity management—provides for the first time the widely accepted appetite-inhibiting action of dextro-amphetamine sulfate, together with 8 Vitamins and 12 Minerals and Trace elements to safeguard against nutritional deficiencies which are frequently engendered by the restricted diet. AM PLUS leaves the patient in a better state of health at the end of the obesity regimen.

for sound obesity management specify

AM PLUS

EACH CAPSULE CONTAINS:

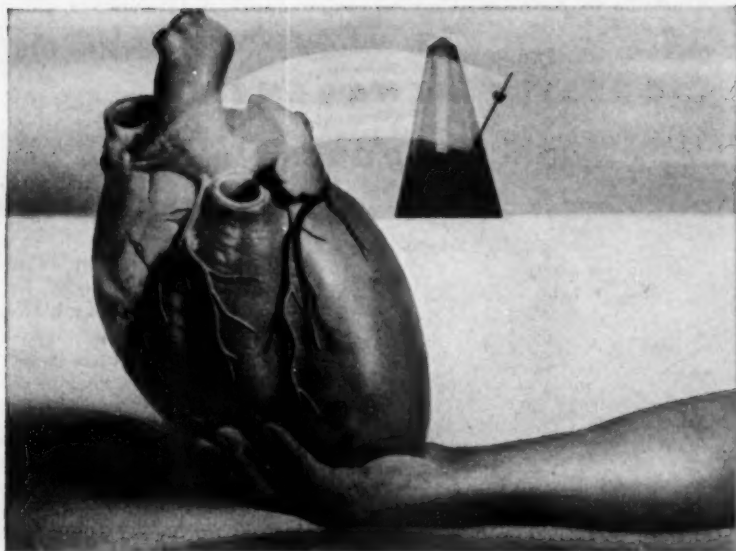
DEXTRO-AMPHETAMINE SULFATE.....5 mg.

BORON.....	0.07 mg.	POTASSIUM.....	1.7 mg.
CALCIUM.....	242 mg.	ZINC.....	0.4 mg.
COBALT.....	0.1 mg.	VITAMIN A.....	5000 U.S.P. Units
COPPER.....	1 mg.	VITAMIN D.....	400 U.S.P. Units
IODINE.....	0.15 mg.	THIAMINE HCl.....	2mg.
IRON.....	3.33 mg.	RIBOFLAVIN.....	2 mg.
MANGANESE.....	0.33 mg.	PYRIDOXINE HCl.....	0.5 mg.
MOLYBDENUM.....	0.2 mg.	NIACINAMIDE.....	20 mg.
MAGNESIUM.....	2 mg.	ASCORBIC ACID.....	37.5 mg.
PHOSPHORUS.....	187 mg.	PANTOTHENATE Ca.....	5 mg.

*The Venus of Willendorf,
Paleolithic Period, circa 20,000 B.C.
Royal Museum of Vienna*



J. B. ROERIG AND COMPANY • 536 LAKE SHORE DRIVE, CHICAGO 11, ILL.



controlled maintenance . . .

Through precise control of contractile force and rhythm, Digitaline Nativelle provides *positive maintenance of the decompensated heart—maintains the maximum efficiency obtainable*. Absorbed completely, it dissipates at a uniformly predictable rate—maintains full digitalis effect between doses with virtually no local side effects. For the comfort and protection of your patients—for your own assurance—specify Digitaline Nativelle *in full*—on your prescription.

digitaline nativelle

Chief active principle* of digitalis purpurea (digitoxin),

*not an adventitious mixture of glycosides.

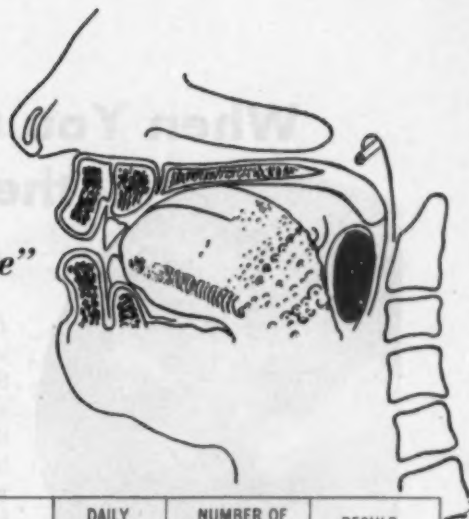


For dosage instructions consult Physicians' Desk Reference.

Send for brochure, "Modern Digitalis Therapy."

Varick Pharmacal Co. Inc., (Division of E. Fougere) 75 Varick St., New York.

*in acute follicular
tonsillitis...
"prompt clinical response"
with
Terramycin*



CASE	DIAGNOSIS	CULTURE		DAILY DOSE GM.	NUMBER OF DAYS TREATED	RESULT
		SOURCE	ORGANISM			
29	Acute follicular tonsillitis	throat	Streptococcus pyogenes	4	3	Prompt clinical response. No fever after 24 hours of treatment

Case report taken from Herrell, W. E.; Heilman, F. R.; Weisman, W. E.,
and Bartholomew, L. A.: *Proc. Staff Meet., Mayo Clin.* 25:183 (Apr. 12) 1950.

CRYSTALLINE Terramycin HYDROCHLORIDE

Dosage: On the basis of findings obtained in over 150 leading medical research centers, 2 Gm. daily by mouth in divided doses q. 6 h. is suggested for most acute infections. In severe infections, a high initial dose (1 Gm.) or higher daily doses (3 to 6 Gm.) should be used. Treatment should be continued for at least 48 hours after the temperature is normal and acute symptoms subside.

Supplied: 250 mg. capsules, bottles of 16 and 100;
100 mg. capsules, bottles of 25 and 100;
50 mg. capsules, bottles of 25 and 100.

Antibiotic Division

Pfizer

CHAS. PFIZER & CO., INC., Brooklyn 6, N. Y.

When You Consider the High Cost of Babies . . .



**Favored Form
of Milk for
Infant Formula**



As a thoughtful physician, you know the expense of raising a baby is a serious matter to most young parents. You know that they are *grateful for advice* that helps them provide their baby with the best possible food at the lowest possible cost.

That's why so many doctors everywhere are recommending Pet Evaporated Milk for infant feeding! Pet Milk *does* assure babies of optimal nutrition . . . *does* give parents the benefits of maximal economy!

You know that easy-to-digest Pet Milk is uniformly rich in *all* the food values the best milk can be depended upon to supply! You know that it is surely safe . . . because Pet Milk is sterilized in its sealed container!

Yet Pet Milk, the original evaporated milk, costs less than any other form of whole milk—far less than special infant feeding preparations!

So recommend Pet Milk for the babies in your care! It's nutritious! It's safe! And it keeps the cost down, too!

PET MILK COMPANY, 1483-B Arcade Bldg., St. Louis 1, Mo.

Clinical success in postpartum hemorrhoids



From a clinical report of 79 cases of postpartum hemorrhoids, treated with RECTAL MEDICONE at a large New York institution, the following results were tabulated:

NO. OF CASES	TYPE	RESULTS
41	SUBACUTE	38 SATISFACTORY RESPONSE
22	ACUTE	22 RELIEF IN ALL CASES
16	CHRONIC	10 SATISFACTORY RESPONSE (4 of the 16 cases required surgery)

The explanation for these highly favorable results in this painful condition lies in the fact that RECTAL MEDICONE SUPPOSITORIES contain benzocaine for topical anesthesia—reinforced by other effective anti-hemorrhoidal agents, which promote retrogression and healing.



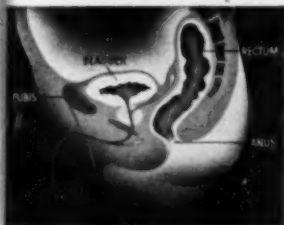
Ethically promoted by
MEDICONE COMPANY
225 Varick St., New York 14, N. Y.

RECTAL MEDICONE

NEW STRATEGY IN COMMON URINARY TRACT INFECTIONS

Pain quickly relieved, infection controlled
by a combination of
Sulfathalidine® and Hexylresorcinol

THALEXYL®, a new combination of two widely accepted drugs, has proved exceptionally effective for symptomatic and bacterial control of urinary infections. Treatment is based on the bacteriostatic, antiseptic and analgesic actions of the two components.



THE PERSISTENCE OF CURE

obtained with SULFATHALIDINE phthalylsulfathiazole is ascribed primarily to two factors: elimination of the source of infection from the bowel may protect the tissues of the urinary tract against recurrent infection by affording opportunity to develop natural resistance. The bacteriostatic effect of the drug on organisms of the gastrointestinal tract may also block the escape of these organisms into the urinary tract.



CLEAR, SPARKLING URINE
is usually obtained within one week after the beginning of THALEXYL therapy.

Prompt relief. When THALEXYL capsules are administered in acute and chronic urinary tract infections, pain and discomfort are quickly relieved, and the urine usually becomes clear and sparkling within one week. Results are due to double antibacterial action of SULFATHALIDINE in the lower bowel and hexylresorcinol in the urinary tract, where the latter also exerts a pronounced analgesic effect, bringing relief from vesical irritability, burning, frequency, and tenesmus. Medication should be continued for three weeks, regardless of symptomatic and bacteriologic improvement, to minimize the possibility of recurrence. Sharp & Dohme, Philadelphia 1, Pa.

write
for
samples
and
literature

Professional Service Department
Sharp & Dohme
West Point, Pa.

Gentlemen:
Kindly send me without obligation literature describing Thalexyl capsules and samples for clinical trial.

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Thalexyl Formula:

Sulfathalidine phthalylsulfathiazole	0.5 Gm.
Hexylresorcinol	0.1 Gm.

Supplied in bottles of 100 capsules, Thalexyl capsules are easily swallowed because of their distinctive elongated shape.

e.g.

"Premarin" with Methyltestosterone wherever combined estrogen-androgen therapy is indicated.

In the treatment of fractures and osteoporosis in either sex to promote bone development, tissue growth, and repair.

e.g.

"PREMARIN".

In the treatment of the female climacteric in certain selected cases.

"Premarin" with Methyltestosterone wherever combined estrogen-androgen therapy is indicated.

WITH

METHYLTESTOSTERONE

e.g.

In the treatment of dysmenorrhea in an attempt to suppress ovulation on the basis that anovulatory bleeding is usually painless.

for combined estrogen-androgen therapy

e.g.

In the treatment of the male climacteric to reduce follicle-stimulating hormone levels.

"Premarin" with Methyltestosterone provides a steroid combination designed to permit utilization of both the complementary and the neutralizing effects of estrogen and androgen when administered concomitantly. Thus certain properties of either sex hormone may be employed in the opposite sex with a minimum of side effects.

Availability: Each tablet provides estrogens in their naturally occurring, water-soluble, conjugated form expressed as sodium estrone sulfate, together with methyltestosterone.

No. 879—Conjugated estrogens equine

("Premarin") 1.35 mg.

Methyltestosterone 10.0 mg.

Bottles of 100 tablets (yellow)

No. 878—Conjugated estrogens equine

("Premarin") 0.625 mg.

Methyltestosterone 5.0 mg.

Bottles of 100 tablets (red)

AYERST, McKENNA & HARRISON LIMITED

22 East 40th Street,
New York 16, New York



appetite
must be controlled



"The greatest problem in preventive medicine in the United States today is obesity."¹ And today it is well-known that

"The only way to counteract obesity... is by a restriction of food intake."²

'Dexedrine' Sulfate controls appetite, making it easy for the patient to avoid overeating and thus to lose weight safely without the use (and risk) of such potentially dangerous drugs as thyroid.

In weight reduction 'Dexedrine' "is the drug of choice because of its effectiveness and the low incidence of undesirable side effects."¹

Smith, Kline & French Laboratories • Philadelphia

Dexedrine* Sulfate tablets • elixir

A most effective drug for control of appetite in weight reduction

*T.M. Reg. U.S. Pat. Off. for dextro-amphetamine sulfate, S.K.F.

1. Walker, W.J.: Obesity as a Problem in Preventive Medicine, U.S. Armed Forces M.J. 1:393, 1950.

2. John, H.J.: Dietary Invalidism, Ann. Int. Med. 32:595, 1950.

TWO-WAY

ATTACK ON

ARTERIOSCLEROSIS

B-TROPIC

TRADE MARK

**potent new therapeutic weapon
corrects abnormal fat and oxygen metabolism**

By balancing the critical equation between blood cholesterol and phospholipids and stimulating normal cellular oxidation, B-TROPIC *corrects* the recently clarified *metabolic causes* of atherosclerosis... the most common form of arteriosclerosis.

B-TROPIC

Solution

Each fluidounce contains:

Tricholine
Citrate (47% Choline).... 6 Gm.
Inositol..... 2 Gm.

Thiamine HCl..... 3 mg.
Riboflavin..... 2 mg.
Nicotinic Acid..... 20 mg.

Two Agreeable Dosage Forms

1. LIPOTROPIC FACTORS
promote normal fat utilization,
reduce excessive cholesterol lev-
els, favor phospholipid formation

2. OXYTROPIC FACTORS
regulate intracellular oxidation,
synergize lipotropic mech-
anism, enhance tissue vitality

Capsules

Each capsule contains:

Choline Dihydrogen
Citrate..... 0.375 Gm.
Inositol..... 0.125 Gm.

Thiamine HCl..... 1 mg.
Riboflavin..... 0.5 mg.
Niacin..... 5 mg.

B-TROPIC

AVAILABLE
IN

SOLUTION—Bottles contain-
ing 1 pt. and 1 gal.

CAPSULES—Bottles of 100,
500, and 1,000.

TO OBTAIN
COMPREHENSIVE
LITERATURE ON
RECENT DEVELOP-
MENTS IN ATHERO-
SCLEROSIS THER-
APY, AND COMPLI-
MENTARY SAMPLES OF
B-TROPIC CLIP AND
MAIL COUPON
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check)

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ATHEROSCLEROSIS

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B-TROPIC
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B-TROPIC
CAPSULES



In Growing Demand...

FREE!

Colorful Measuring Chart for your little patients. . . Write for pad of 25 charts.



Vitamin B₁₂ in Drop Dosage Form—
SOL DEX provides the preferred crystalline Vitamin B₁₂ U. S. P. in drop dosage form—ideal for administration to infants and children. Sol Dex drops are stabilized to contain 10 micrograms of Vitamin B₁₂ per cc. (approx. 20 drops). For convenience, effectiveness and assured assay—prescribe Sol Dex.

"Noticeable clinical changes after B₁₂ administration were those of increased physical vigor, alertness, better general behavior, but above all, a definite increase in appetite."

—Wetzel, N. C., et al., Science 110:65

Another fine J. M. product:
Meyenberg Evaporated Goat Milk



LITERATURE AND SAMPLES ON REQUEST



Jackson-Mitchell Pharmaceuticals, Inc.

formerly SPECIAL MILK PRODUCTS, Inc.

LOS ANGELES 64, CALIFORNIA • SINCE 1934



in scalpels or needles

**nothing
holds
an edge
like
tempered
steel**

Only VIM needles are made of "Laminex" stainless steel. Unlike other steels, "Laminex" steel can be heat-treated to give it a true spring temper. That's why VIM "Laminex" needles stay sharper longer, need replacement less frequently. Specify . . .

hypodermic needles and syringes

VIM

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MACGREGOR INSTRUMENT COMPANY, NEEDHAM 92, MASS.

MODERN MEDICINALS

Physicians will find that these brief resumes of essential information relative to the newer products are so prepared that they may be removed and pasted on standard 3 x 5" file cards, and filed for ready reference.

Eskacillin-Sulfas

2-51

MANUFACTURER: Smith, Kline and French Laboratories, Philadelphia, Pa.

INDICATIONS: In those numerous infections where penicillin- and/or sulfonamide-sensitive organisms are present, e.g., pneumococcus, hemolytic streptococcus, staphylococcus, gonococcus, some *Salmonella* and *Shigella* organisms and coli-form organisms.

ACTIVE CONSTITUENTS: Each teaspoonful (5 cc.) supplies 100,000 units of crystalline potassium penicillin G and a total of 0.5 Gm. (0.167 Gm. each) of the following three sulfonamides: sulfadiazine, sulfamerazine and sulfamethazine.

DOSAGE: The physician will be guided by the fact that one teaspoonful (5 cc.) of Eskacillin-Sulfas contains 0.5 Gm. of total sulfonamides. Dosage calculated on the basis of sulfonamide content will provide an adequate dosage of oral penicillin.

HOW SUPPLIED: In 2 fl. oz. bottles.

Glutamicol

2-51

MANUFACTURER: Walker Vitamin Products, Inc., Mt. Vernon, New York.

INDICATIONS: For the treatment of mental retardation.

ACTIVE CONSTITUENTS: Provides 3 Gm. of l(+) glutamic acid, buffered with sodium citrate, per teaspoonful.

DOSAGE: As indicated. May be mixed with fruit juice, milk or semisolid foods such as puddings and cereals.

HOW SUPPLIED: In 10-oz. bottles.

NPH Insulin

2-51

MANUFACTURER: NPH Iletin, Eli Lilly and Co., Indianapolis 6, Indiana; NPH Insulin, Sharp & Dohme, Inc., Philadelphia 1, Pa.; and E. R. Squibb & Sons, 745 Fifth Avenue, New York 22, New York.

INDICATIONS: Increases both the stability and duration of the blood sugar-lowering effect in the treatment of diabetes mellitus. Can be substituted for regular insulin with fewer night reactions and instances of high urinary sugar levels during the day. Effective for 28 to 30 hours, NPH insulin usually requires only one dose daily, thus minimizing inconvenience and discomfort.

ACTIVE CONSTITUENTS: A combination of protamine and zinc-insulin crystals.

DOSAGE: Administered subcutaneously before breakfast. Dosage is determined individually for each patient. Initial dosage for patients who have had no previous insulin preparations is about $\frac{2}{3}$ the number of units needed daily to maintain the patient "sugar-free" under treatment with unmodified insulin— $\frac{4}{5}$ the total daily requirement of other insulin preparations where patients have been receiving insulin therapy. Further dosage is adjusted over a period of days until satisfactory control is obtained.

HOW SUPPLIED: In two strengths, designated as U-40 and U-80, containing, respectively, 40 units and 80 units per cc. in 10-cc. vials.

—Continued on page 44a



NOW PROOF...in an instant, Doctor,
PHILIP MORRIS are **LESS IRRITATING**

Just Make This Simple Test:



1 . . . light up a
PHILIP MORRIS

Take a puff—**DON'T INHALE**. Just s-l-o-w-l-y let the smoke come through your nose. Easy, isn't it? **AND NOW...**



2 . . . light up your
present brand

DON'T INHALE. Just take a puff and s-l-o-w-l-y let the smoke come through your nose. Notice that bite, that sting? Quite a difference from **PHILIP MORRIS**!

YES, your own *personal experience* confirms the results of the clinical and laboratory tests.* With proof so conclusive, would it not be good practice to suggest **PHILIP MORRIS** to your patients who smoke?

PHILIP MORRIS

Philip Morris & Co., Ltd., Inc.
100 Park Avenue, New York 17, N. Y.

**Proc. Soc. Exp. Biol. and Med.*, 1934, 32, 241-245; *N. Y. State Journ. Med.*, Vol. 35, 6-1-35, No. 11, 590-592; *Laryngoscope*, Feb. 1935, Vol. XLV, No. 2, 149-154; *Laryngoscope*, Jan. 1937, Vol. XLVII, No. 1, 58-60

Terramycin Intravenous, Topical Ointment

2-51

MANUFACTURER: Chas. Pfizer and Co., Inc., Brooklyn, New York.

INDICATIONS: Intravenous—Treatment of peritonitis and prophylactic sterilization of the intestine before and after abdominal surgery. Ointment—In the treatment of superficial pyogenic infections, or infections due to mixed bacterial flora, pustular, dermatitis, minor burns, or prophylactically in cases of minor surgery and minor injuries.

ACTIVE CONSTITUENTS: Intravenous—Terramycin; each gram of the ointment contains the equivalent of 30 mg. of pure terramycin.

DOSAGE: As indicated.

HOW SUPPLIED: Intravenous—In two package sizes—containing either 250 mg. or 500 mg. of sterile crystalline terramycin hydrochloride—dosages calculated for maximum convenience for physician-administration under hospital conditions. Ointment—1 oz. tube.

Histar

2-51

MANUFACTURER: The Tarbonis Company, 4300 Euclid Avenue, Cleveland 3, Ohio.

INDICATIONS: In pruritus ani et vulvae, contact dermatitis, chronic and subacute eczemas, dermatitis venenata, psoriasis, folliculitis, seborrheic dermatitis, intertrigo, varicose ulcers, allergic dermatitis, urticaria, infantile eczema, recurrent herpes simplex, and neurodermatitis.

ACTIVE CONSTITUENTS: Combination of pyranisamine maleate (N-p-methoxybenzyl-N, N-dimethyl-N-e-pyridyl-ethylenediamine maleate) 2 per cent and special coal tar extract 5 per cent, in a water-miscible emulsified hydrophilic base, clean in application, non-staining and non-soiling.

DOSAGE: Apply twice daily, preferably morning and night, or as often as the physician deems necessary to produce desired results.

HOW SUPPLIED: Jars of two ounces and one pound.

Premarin with Methyltestosterone Tablets

2-51

MANUFACTURER: Ayerst, McKenna & Harrison Limited, New York, New York.

INDICATIONS: In the treatment of osteoporosis, fractures, malnutrition, acromegaly, and other conditions where the cooperative effect of both hormones is preferred to the action of each steroid employed singly; in certain selected cases of male climacteric when a response to estrogen is desired without feminizing manifestations; and in certain selected cases of female climacteric, when a response to androgen is desired without virilizing effects.

ACTIVE CONSTITUENTS: Conjugated estrogens equine with methyltestosterone.

DOSAGE: As indicated.

HOW SUPPLIED: Conjugated estrogens equine ("Premarin"), 1.25 mg. with methyltestosterone, 10 mg. Bottles of 100 tablets (yellow). Conjugated estrogens equine ("Premarin"), 0.625 mg. with methyltestosterone, 5 mg. Bottles of 100 tablets (red).

Chlor-Trimeton Maleate 8 mg. Repeat Action Tablets

2-51

MANUFACTURER: Schering Corporation, Bloomfield, New Jersey.

INDICATIONS: Especially when longer effect from a single tablet is required, indicated for symptomatic relief of manifestations of allergic states, such as hay fever, vasomotor rhinitis, urticaria, allergic eczema, angioedema, serum sickness and drug sensitivity. Benefit may frequently be apparent from its use in atopic dermatitis, insect bites, migraine, pruritus ani and vulvae, and pruritis of nonspecific origin. It may be considered worthy of clinical trial in allergic headache, dermatographism, gastrointestinal and physical allergy, neurodermatitis, poison ivy, tuberculous reactions, transfusion reactions and exanthema eruptions such as measles and chicken pox.

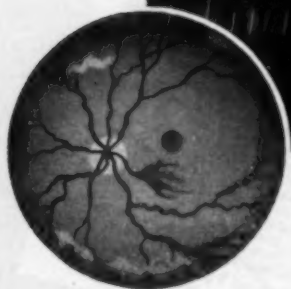
ACTIVE CONSTITUENTS: Chlorpheniramine maleate (1-para-chlorophenyl-1-(2-pyridyl)-3-dimethylaminopropane maleate, 8 mg. Repeat action is provided by two layers of Chlor-Trimeton maleate, 4 mg. in the outside coating is intended to produce immediate symptomatic relief lasting about 4 to 6 hours, and a special inner coating is designed to release another 4 mg. in the core after about 3 to 6 hours.

DOSAGE: Adults: One 8 mg. tablet at bedtime, or every 8 to 10 hours during the day. This special-coated tablet is designed for administration to adults only.

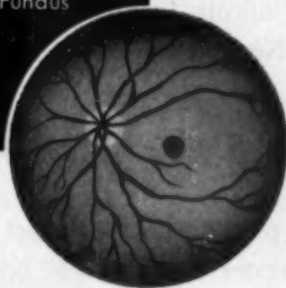
HOW SUPPLIED: Tablets of 8 mg., buff colored bottles of 100 and 1000.

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a normal stool is 80% water¹

The physiologic role of water in constipation correction is evident: the presence of adequate water is necessary to stimulate gastric action, facilitate intestinal absorption, and assure comfortable, easily passed stools of good caliber and consistency.

An aid to patient-education:

Sufficient water intake is advised in "7 Rules for 7 Days," a simple leaflet designed to help the patient understand and overcome the "improper habits of living and eating"² which cause constipation.

Available to physicians: Pads of the "7 Rules" may be had on request. Simply write "7 Rules" on a prescription blank and send to Chilcott Laboratories, Morris Plains, New Jersey.

- 7 RULES FOR 7 DAYS
1. When you feel the urge to pass a bowel movement, attend to it at once, even if it means interrupting your meal or work.
 2. Observe a suitable time daily for bowel evacuation. Take all the time you need. Make yourself comfortable; if the toilet seat is too high, use a foot rest. Don't strain. Relax.
 3. Meals should be eaten at a regular mealtime. Eat slowly and chew food well. Some fruit and fruit juice, vegetables, salads, whole wheat bread or cereal should be included daily. Add to make up for the bulk lacking in the diet of most constipated people, take Cellothyl daily as directed.
- Drink 2 glasses of water upon arising, and at least one glass

An aid to physiologic correction:

Cellothyl, physiologically correct bulk, may be prescribed (with adequate water) for improved bowel function.

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Some authorities have observed that adequate water intake, plus proper diet, will produce regular daily bowel movements without adjuvant medication. However, more recent investigations prove the value of adding Cellothyl (physiologically correct hydrophilic colloid) to a well-ordered

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Physiologic constipation correction and patient-understanding

A combination of therapeutic regimen and patient-cooperation offers the most effective constipation correction. Explanation of the "simple rules of bowel hygiene"⁴ helps the patient understand the importance of sufficient daily water intake,

proper diet, regular meals, etc.—good habits so essential for normal bowel function. The leaflets "7 Rules for 7 Days" outline a simple patient-program—easy to follow and physiologically correct. Pads for office use are available on request.

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When the usual program of diet-and-instruction per se fails to alter deeply ingrained habits, Cellothyl acts to correct constipation in a physiologic manner: following the normal digestive gradient, Cellothyl passes through the stomach and small intestine in a fluid state, then thickens to a smooth gel in the colon to furnish bulk—where bulk is needed—for soft, moist, well-formed stools.

To facilitate hydrophilic action, "the intake of adequate amounts of fluids, at least 2.5 to 3.5 liters daily, is of the greatest importance."² *Each dose of Cellothyl must be taken with a full glass of water.* When properly used in adjunct to any well-planned anticonstipation regimen, Cellothyl may help to achieve more normal bowel habits "in the course of a few days."⁵

Dosage: 3 Tablets t.i.d. until normal stools pass regularly. Continue at minimum level for as long as required. *Daily fluid intake must be high.*

In "cathartic addiction," administer for several days $\frac{1}{2}$ the usual dose of cathartic together with Cellothyl, then $\frac{1}{2}$ the usual dose,

then Cellothyl alone for as long as necessary. Cellothyl is not habit-forming.

Because Cellothyl acts in an unhurried, physiologic manner, time must be allowed for it to pass through the digestive tract into the colon and rectum.

Cellothyl[®]

brand of methylcellulose
especially prepared by the Chilcott Process



1. Gray, H. and Tainter, M. L.: *Am. J. Digest. Dis.* 8:130, 1941.
2. Borgen, J. A.: *Gastroenterology* 13:275, 1949.
3. Musick, V. H.: *J. Oklahoma M. A.* 43:360, 1950.
4. Schweig, K.: *New York State J. Med.* 48:1822, 1948.
5. Council on Pharmacy and Chemistry: *J.A.M.A.* 143:897, 1953.

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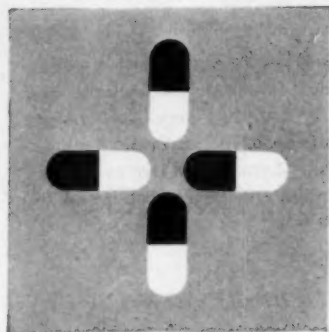
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the ideal single preparation for ill-defined secondary anemias

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Feosol Plus combines—in a carefully balanced formula—ferrous sulfate (grain for grain the most effective form of iron), liver, and seven other factors essential to optimal production of red blood cells. It is, therefore, most useful for the treatment of those ill-defined secondary anemias which resist treatment with iron alone.

Look what each capsule contains!

Ferrous sulfate, exsiccated.	200.0 mg.
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Dosage—3 capsules daily, one after each meal

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¹ Stoll, Norman R., *J. of Parasitology* 33:1 No. 1 (Feb.) 1947.

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ADULT DOSAGE: 3 or more tablets with a full glass of water, twice daily, until normal elimination is established, then reduce to 3 tablets before retiring.

The **HARROWER** Laboratory, Inc.
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LETTERS TO THE EDITOR

—Continued from page 30a

"Your 'refresher' articles are an excellent idea and certainly a time-saver for us."

Karl F. Mayer, M.D.
Glenside, Pa.

"MEDICAL TIMES is an ideal medical journal for the general practitioner, keeping him up to date on recent advances in science.

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John Costantini, M.D.
Baltimore, Md.

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"'Mercy Killings', as they are so erroneously called, can never be morally justified."

M.D., Flushing, N. Y.

MEDICAL TIMES

spulsive wave
at first intestinal
level (duodenum)

spulsive wave
at second
intestinal level

spulsive wave
at third
intestinal level

spulsive wave
at fourth
intestinal level

Spasmolysis at its Best... by LIVING TEST

Intubation studies^{1,2,3} increasingly confirm the findings of controlled clinical tests and broad professional experience; they dramatically demonstrate the *marked superiority of natural belladonna alkaloids over the synthetics in relieving smooth muscle spasm.*^{2,3}

Donnatal employs precise proportions of the principal alkaloids of belladonna, together with a minimal phenobarbital dosage, to intensify the belladonna effects and help correct emotional factors contributing to the provocation of spasm.

REFERENCES: 1. Chapman, W. P., Rowlands, E. N., and Jones, C. M.: *New England J. Med.*, 243:1, 1950. 2. Kramer, P. and Ingelfinger, F. J.: *Med. Clin. North America*, 32:1227, 1948. 3. Posey, E. L., Bargen, J. A., and Dearing, W. H.: *Gastroenterol.*, 11:344, 1948.

FORMULA: Each tablet, each capsule, and each 5 cc. (1 teaspoonful) of Elixir, contains 0.1037 mg. hyoscyamine sulfate, 0.0194 mg. atropine sulfate, 0.0065 mg. hyoscine hydrobromide, and 16.2 mg. (1/2 gr.) phenobarbital.

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TABLETS • CAPSULES • ELIXIR

WHENEVER and WHEREVER spasm of smooth muscle causes pain or dysfunction

Technique of
multiple balloon
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"MAN IS THE MEASURE OF ALL
THINGS..." PHARMACEUTICAL



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REFERENCES: 1. Kammandel, H. et al.: Bull. N. Y. Med. Coll., Flower & Fifth Ave. Hosps. (in press). 2. McGavack, T. H. and Klotz, S. D.: Bull. N. Y. Med. Coll., Flower & Fifth Ave. Hosps., 9:61, 1946. 3. Weisberg, J. et al.: Am. J. Dig. Dis., 15:332, 1948.

FORMULA: Each tablet contains 300 mg. pancreatin, U.S.P. 250 mg. pepsin N.F. and 150 mg. bile salts.

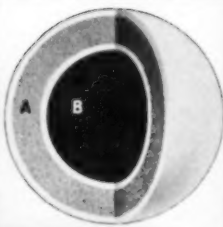
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in the pneumonias*

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lobar pneumonia with bacteremia

"After initiation of Chloromycetin therapy the temperature returned to normal within forty-eight hours, and prompt subsidence of the cough and chest pain occurred."¹

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"Clinically, the child improved rapidly and was out of the oxygen tent in 24 hours and afebrile in 36 hours."²

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Chloromycetin is unusually well tolerated. Side effects are rare, severe reactions almost unknown.

Bibliography (1) Hewitt, W. L., and Williams, Jr., B.: New England J. Med. 242:119, 1950. (2) Recinos, Jr., A.; Ross, S.; Ohlaker, B., and Twible, E.: New England J. Med. 241:733, 1949. (3) Wood, E. J.: Lancet 2:53, 1949.

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1. Inhibition of the acute inflammatory process in the body tissues.
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"The course of ordinary colds is strikingly shortened by prompt use of the penicillin dust inhalation. We have no illusions that it is effective against virus that initiates the common cold or any other viruses."

The authors also report: "We are fully aware that the etiologic agent of the common cold is probably not a penicillin-sensitive organism. Secondary invaders undoubtedly account for the accentuation of the initial symptoms and in most instances for the more serious complications. Dramatic results often are seen in those patients in whom the cold has been hanging on."

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*Trade Mark for Abbott Sifter Cartridge. AEROHALOR and AEROHALOR Cartridge patented in U. S. and Foreign Countries. 1. Krasno, L., and Rhoads, F. (1949), The Inhalation of Penicillin Dust; Its Proper Role in the Management of Respiratory Infections, Amer. Prac., 11:649, July.

Subacute Bacterial Endocarditis

H. F. DE FEO, M.D., F.A.C.P., F.A.C.C.P.*
Chicago, Illinois

The Problem Stated Prior to the use of sulfa drugs and the antibiotics the diagnosis of Subacute Bacterial Endocarditis nearly always meant a fatal outcome. True it was as one listened to these hearts, they "beat muffled marches to the grave." With the advent of sulfanilamide and the antibiotics, the outlook assumed new and more hopeful horizons. In fact, in recent years the widespread use of penicillin, in particular, with its favorable results made it appear that at long last the cure for this dreaded fatal disease was at hand. As time has gone on, and more critical surveys of these penicillin-treated cases were made, we learn that in spite of the use of the newer chemicals and antibiotics, there is still a considerable percentage of failures with resultant deaths.

It might be wise, therefore, again to review, especially for the general practitioner, some of the fundamental principal concepts that have to be kept in mind for the successful treatment of this disease. Today, for the most part, one can say that the successful treatment of this disease is predicated upon two factors:

1. Early and adequate diagnosis
2. Proper antibiotic therapy

For the most part, I can confine my remarks to those cases of failure where

penicillin in particular was used and try to point out some of the reasons for these failures. We shall see that it is not the penicillin or other antibiotics that are ineffective, but rather that their use is not properly understood or employed.

Fundamentals In order better to understand the two factors mentioned above, it might be wise to dwell a bit on some of the fundamental pathological and physiological concepts regarding this disease. In striving for an early and adequate diagnosis, it is important to keep in mind several of the etiological factors, namely:

1. That this disease occurs in previously damaged hearts, such as a rheumatic valvular disease (this may be minimal), congenital heart disease or arteriovenous fistula.
2. It may be preceded by upper respiratory infection.
3. Recent minor surgical intervention such as (a) extraction of a tooth; (b) cystoscopic examination.

Another important factor to be kept in mind for the successful treatment of this disease is adequate knowledge of the cause of death. What is it that kills and how? Knowing this, one can direct therapy toward the prevention of that which kills, or inhibit it. In my experience, and I am sure in the experience of others, if the causes of death were looked

* Assistant Clinical Professor, Loyola University, Attending Physician, Cook County Hospital.

for in these cases they would fall into one of four categories or combinations thereof:

1. Prolonged sepsis. These people may become exhausted, dehydrated with resultant nutritional deficiency and die.

2. Thrombo-embolic vascular accident. These vary in extent and location; one or two to a vital area in the brain may cause death or multiple emboli to the kidney, producing so-called "flea-bitten kidney" with resultant uremia and perhaps death.

3. Cardiac failure.

4. Intercurrent complications or infections.

Ideal Approach Understanding the etiology and keeping in mind the causes of death, what, therefore, would be the ideal therapeutic approach? Prior to the use of the sulfas and the antibiotics, I always thought the answer to the treatment of this disease would be the following:

1. Agents to adequately control the sepsis. These agents, of course, must be able to destroy the offending organism without affecting the body economy as a whole. It would be necessary that the agent must reach the organisms in adequate amounts. It has been shown by postmortem examination of the affected valve leaflet that the thrombotic vegetation is uppermost, while the offending organisms lie at the base of the thrombotic vegetation on the valve leaflet.

It can be readily appreciated, therefore, that substances added to the blood stream to destroy the organism, such as sulfas, as shown many years ago, are inadequate because they do not reach the bacteria. The thrombotic vegetation is merely bathed by a sulfa-laden blood stream with little penetration to the organisms beneath it. Penicillin is apparently more effective, not only because of its greater antibiotic properties but because of its ability to diffuse into the interstitial tissues and more readily reach the bacteria directly.

2. Prevention of thrombotic accidents. Here, one would look for methods to prevent the formation of vegetation (use of

anti-coagulants today), or some method or drug that would cause fixation of the already formed vegetations so they would not break loose and be free in the blood stream.

3. Finally, general supportive measures, the necessity for which would present itself throughout the course of the disease; namely: Rest, blood transfusions, vitamins, adequate nutrition and the control of cardiac failure.

Failures It will be seen from the above that today, for the most part, we have the necessary materials and methods for the treatment of this disease. Critical statistical analyses, however, from various Clinics throughout the country have shown that we still have a too large percentage of failures. The percentage of failures ranges from 25 to 50 per cent from different Clinics. Friedberg⁽¹⁾ in a recent review of his cases, categorically broke his penicillin failures into five different groups. His causes for failure parallel those in my own service at Cook County Hospital and from other Clinics. We shall draw upon his results rather frequently to illustrate these causes of failure and how they can be prevented. By and large, in my own experience, pitfalls and failure in penicillin therapy are due to:

1. Too small an amount
2. Too brief a time of administration
3. Penicillin-resistant organism
4. Mixed infections
5. Acquired immunity to the drug
6. Natural immunity to the drug
7. Allergy to penicillin

Too small an amount and too brief a time in its use is probably one of the most important factors in penicillin failures. Following the administration of the penicillin, the patient may become afebrile and the physician lulled into a sense of false security. With recurrence of fever, re-administration of penicillin often proved ineffective. In many cases, this was due to acquired immunity of the organism. The penicillin-resistant organisms can only be determined by sensi-

tivity tests. It is imperative that a sensitivity test be performed if a specific organism is isolated from the blood stream. In mixed infections, one may have to resort to a combination of antibiotics. It seems that the combination of penicillin and streptomycin may be synergistic while other combinations might not only be ineffective but harmful. To emphasize again, penicillin must be used in adequate amounts for a sufficient period of time (for at least six to eight weeks).

In Dr. Friedberg's cases the recovery rate was about 72 per cent, which represents a failure of 28 per cent, in spite of the fact that some of these were bacteriological cures. As we mentioned before, the cases for failures were placed into the five following groups:

1. Fatal cases despite isolation of penicillin-sensitive organism. For the most part, failure was due to too small an amount of penicillin for too brief a time.

2. Fatal cases despite bacteriological cure. Here, many of the cases died because of cardiac failure in spite of the bacteriological cure. Possibly, because they were seen too late in the course of their disease. Many were of an older age group. One can appreciate that death may ensue in spite of a bacteriological cure, especially if these cases are seen late in the disease and in which thrombo-embolic accidents may occur and cause death.

3. Fatal cases due to the resistance of the organism. In spite of the finding of a resistant organism, it is conceivable that some of these cases may be saved by giving much larger amounts of penicillin (if necessary, twenty million units daily), or combining or substituting other more recently available antibiotics.

4. Fatal cases due to errors in diagnosis or delay in treatment because of negative blood cultures.

5. Undiagnosed cases. Of these, many older people with obvious organic heart disease, in whom perhaps malignancy was suspected, and the diagnosis of subacute

bacterial endocarditis was found only at post-mortem.

Diagnostic Considerations Dr. Friedberg pointed out (and justly so) that our criteria for diagnosis formulated in the past may have to be revised. Formerly, it was emphasized that before a diagnosis of subacute bacterial endocarditis, the following four elements should be present:

1. Persistent fever
2. Valvular or congenital heart disease or A-V fistula
3. Embolic and vascular lesions
4. Positive blood cultures.

It can readily be seen today that if we insist upon (3) and (4) being present, many cases will remain undiagnosed or be treated too late. The failures for positive blood cultures are varied and many. In general, they are due to:

1. Faulty technique, such as inadequate culture media.

2. Failure to add penicillinase to the culture media, if penicillin is being used or para-aminobenzoic acid if sulfa is being used.

3. Cultures should be taken frequently, several times daily, preferably immediately after chill or fever. Arterial puncture may be resorted to.

Friedberg further pointed out that diagnosis sufficient to institute treatment may be based on:

1. Unexplained fever of seven or more days
2. Presence of an organic cardiac murmur or A-V fistula

He further summarizes the present-day concept of treatment, as follows:

1. Commencement of treatment. This must be early. It seems that seven or ten days would be adequate to rule out all other conditions which may cause persistent fever in an individual who has an organic cardiac murmur or A-V fistula. If all other causes for the fever have been ruled out, treatment should be instituted in spite of negative cultures or embolic manifestations.

2. The dosage and administration of

antibiotics. Large amounts of penicillin over a prolonged period of time are necessary for a successful outcome. The dosage of penicillin will vary dependent upon the sensitivity of the organisms isolated. In the absence of such organism, a minimum of 1,200,000 units a day should be employed for six to eight weeks, preferably by parenteral administration. Attempts have been made to maintain a high dosage of penicillin in the blood stream by the use of such substances as Coranimide or Para-aminohippuric acid simultaneously with penicillin.

3. Treatment in cases of negative blood cultures. In the presence of negative blood cultures, it would be wise to use a minimum dose of twelve hundred units of penicillin daily, preferably in combination with streptomycin.

4. Treatment of mixed infections. In the presence of mixed infections, or possibly organisms other than the usual one,

namely, *Streptococcus viridans*, antibiotic combinations such as penicillin-streptomycin mentioned above, or perhaps some of the newer antibiotics which may be specific for the particular organisms isolated, should be used.

Primum nolle nocere This very briefly outlines some of the facts to be kept in mind in the present-day treatment of subacute bacterial endocarditis. In case of doubt, it seems that it is much better to treat this dreaded fatal disease rather than risk a fatal outcome in attempting to make a diagnosis of some other type of febrile disease. Truly, one cannot go too far astray if one follows the Latin dictum "Primum nolle nocere," (First, do no harm).

Reference

1. Friedberg, Charles K. Revised Criteria For Diagnosis and Treatment Subacute Bacterial Endocarditis. Medical Clinics of North America—Vol. 34, No. 3, May, 1950.
738 West 79th Street



Cash Award

The Board of Regents of the American College of Chest Physicians offers a cash prize award of Two Hundred and Fifty Dollars (\$250.00) to be given annually for the best original contribution, preferably by a young investigator, on any phase relating to chest disease. The prize is open to contestants of other countries as well as those residing in the United States. The winning contribution will be selected by a board of impartial judges and the award, together with a certificate of merit, will be made at the forthcoming annual meeting of the College to be held in Atlantic City, New Jersey, June 7-10, 1951.

The College reserves the right to invite the winner to present his contribution at the annual meeting and to publish the

essay in its official publication, *Diseases of the Chest*. Contestants are advised to study the format of *Diseases of the Chest* as to the length, form and arrangement of illustrations to guide them in the preparation of the manuscript.

The following conditions must be observed:

1. Five copies of the manuscript, typewritten in English, should be submitted to the Executive Office of the College, 500 North Dearborn Street, Chicago 10, Illinois, not later than April 1, 1951.
2. The only means of identification of the author or authors shall be a motto or other device on the title page and a sealed envelope, bearing the same motto or device on the outside, enclosing the name of the author or authors.

Therapy and Diagnosis

A Review of New Developments in 1950

Continued from last month is this summarization which attempts to review the essential information on new developments during the past year and is designed as a time-saving refresher for the busy practitioner.

ANTISPASMODICS, MUSCLE RELAXANTS

Dihydro-beta-erythroidine Parkinsonism or paralysis agitans is a disease which manifests itself by muscular rigidity accompanied by tremor. Atropine and related compounds have been used therapeutically in order to control the rigidity. Improvement was obtained in most cases but after reaching a certain level no further improvement was attained. Recently dihydro-beta-erythroidine has been used in conjunction with atropine to augment the results. The compound is the hydrogenated alkaloid obtained from the genus *Erythrina* L. and has a curare-like action. When given alone it has little or no effect on patients with Parkinsonism but when combined with atropine the effect is augmented.

The optimum therapeutic procedure is to administer atropine in gradually increased dosage until the maximum clinical response is obtained. When this base-line

improvement is reached and maintained then dihydro-beta-erythroidine is administered in oral doses of 50 mg. four times a day. Additional improvement is usually evident within 1 to 3 weeks and a maximum improvement is reached within a month. The withdrawal of the new drug causes a recrudescence of symptoms and readministration causes improvement again. The only improvement is on the rigidity with little or no effect on the tremor.

Toxic symptoms were confined to gastro-intestinal disturbances, blurring of vision and dizziness. In most of the 11 cases in which they appeared these were mild and transitory. No other systemic disturbances were observed in the 24 patients subjected to this treatment.

Khellin Khellin, a smooth muscle relaxant derived from the plant *Ammi visnaga* Lam (Arabic: Khella), indigenous to the Eastern Mediterranean and Arabian areas, is a compound for prophylactic use in the relief of angina pectoris and chronic bronchial asthma. Most of the reports in the literature refer to work done with a mixture of active principles,

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chiefly khellin, derived from the plant. In these reports the mixture is loosely called khellin. The name khellin, however, should be reserved for the particular pure chemical compound in the mixture, i.e., 2-methyl-5, 8-dimethoxy-furanochromone. Khellin is thus to be differentiated from two other derivatives from *Ammi visnaga*, namely, visnagin and khellol glucoside. The name visammin has also been used to designate khellin and the name khellin has been used for the compound usually called khellol glucoside.

Khellin relaxes all smooth muscles so far tested, apparently largely by direct action on the muscle itself. It acts not only on untreated muscle but also on smooth muscle contracted by histamine or acetylcholine.

Because of its bitter taste, which once was a criterion in using plant extracts as medicinals, *Ammi visnaga* has been used as a remedy in Eastern Mediterranean countries for centuries. In 1934 preparations of this plant in the form of a 1 in 10 tincture and 1 in 40 decoction were introduced into the Egyptian Pharmacopeia and recommended as an antispasmodic in renal colic. Since then pharmacological reports of khellin's dilating effect on the coronary arteries have led to clinical studies of its effect in angina pectoris.

The common cause of the chest pain in angina pectoris is believed to be impairment of the blood supply to the heart as a result of arteriosclerosis. An acute attack is probably always associated with some spasm of the coronary vessels as well. Because of these considerations and the immediate relief which occurs with nitroglycerin, the place of coronary dilators in the treatment of angina pectoris is firmly established. Pharmacological and clinical reports now indicate that in khellin a really effective, long-acting agent has been found for the prophylaxis of angina pectoris.

Khellin also has been given limited trial

in bronchial asthma, as a prophylactic drug, though epinephrine remains the most effective agent for relieving the acute attack. Epinephrine is limited by its evanescent action, the way it is administered (parenterally), its pressor effects on the circulation, and the fact that some asthmatics become "epinephrine fast." In an Egyptian trial of khellin in asthma, 41 out of 45 patients got relief from intramuscular injections of 200-300 mg. of khellin.

Khellin also has been reported safe and effective in the symptomatic treatment of whooping cough. The distressing, often debilitating, paroxysms occurring in this infection are a result of mucous plugs obstructing the bronchioles. Bronchial and bronchiolar dilators apparently relieve this condition because obstruction is lessened and the inflammatory secretions are more easily removed.

In its present marketed forms khellin is available in 20 and 40 mg. tablets for oral administration. Dosage is variable, dependent upon two factors: (1) a process called khellinization, and (2) side effects. Khellin has a cumulative effect, in the manner of digitalis. Initial dosage for angina pectoris is one tablet (40 mg.) 3 times a day, after meals, though in some cases 4 a day are required. Accumulation of khellin at the therapeutic level (khellinization) should be obtained in 3 to 7 days. In cases where untoward effects develop early, khellinization at a lower level is needed. It should be withdrawn for 2 to 3 days, then one tablet given daily for a week, after which the daily dose can be increased one tablet, at weekly intervals, until therapeutic effect is attained.

Thereafter, a maintenance dosage should be determined. Three tablets (40 mg.) a day produce maximum therapeutic benefit for many patients, but untoward effects tend to appear or increase with cumulation, usually after 4 to 7 days. In these cases dosage should be dropped first to 2 tablets a day, then to one. Most

patients can take either 3 or 2 tablets per day for considerable periods of time.

Dosage procedure for bronchial asthma is substantially the same as for angina pectoris.²⁸

Parpanit Caramiphen hydrochloride is one of the newer synthetic drugs for reducing rigidity and tremor in Parkinson's disease. It was previously known as Parpanit. This drug acts effectively in the condition without the disagreeable side effects of conventional therapy with belladonna alkaloids—dry mouth and disturbances of vision. The diminution in rigidity obtained results in greater freedom and speed of movement and greater ease in feeding and talking. This drug appears to act by blocking the proprioceptive impulses arising in muscles and joints. The dosage administered is regulated according to the patient.²⁹

Procaine For many years procaine has been used to produce anesthesia. However, in recent years new uses for this drug have been discovered. Within the last six months it has been reported that procaine given orally is effective in relieving pyloric spasm. Just as with so many other discoveries the effectiveness of oral procaine in this condition was accidentally discovered during an intensive investigation of the mechanism of the pyloric reflex. In a period of 4 years Roka and Lajtha examined fluoroscopically several hundred patients. They found that normally when the stomach is empty the pylorus is open and that it closes when some stimulating substance passes into it from the stomach. The stimulating substance may be food or the diagnostic medium. Thus the basic stimulus for closing the pylorus physiologically is apparently a local irritation of the wall. Therefore, if an anesthetic could be given which would affect the local nerve endings so as to block conduction, spastic closure of the pylorus might be inhibited.

Since procaine hydrochloride is not very toxic in dilute solution and it does

possess the property of blocking nerve conduction it was selected for the tests. One hundred cc. of a 1 per cent solution was the dosage given. The patient, in a sitting position, was instructed to drink slowly this quantity of solution over a period of 4–5 minutes. After 5 to 15 minutes later the pylorus was observed to determine its movements. It was found that in over 150 normal individuals the pylorus became almost completely paralyzed within 10 minutes. Complete atonicity was produced and the contrast medium passed through without any hindrance. The stomach movements were normal in every respect. The procaine also prevented reflex response to any local mechanical irritation. Relaxation of the pylorus was achieved in patients who were considered hopeless and resistant to all therapy. In a study of more than 100 cases known to have a spastic pylorus and a stomach which emptied slowly with a constant residue the sphincter was observed to relax promptly after oral administration of procaine. If the pyloric canal was obstructed by cancer or by scar tissue from a healed ulcer oral procaine had no effect.

Oral procaine also prevented vomiting in 11 cases of gastric ulcer. In 5 patients with cancer of the stomach normal feeding was restored resulting in relief of malnutrition and hypochloremia. Surgery could then be performed.

The effect of the procaine lasts for 2 to 3 hours. It can be given in 1 per cent solution in doses of 50 to 100 cc. twice a day for several days without any untoward reactions.

d-Tubocurarine Chloride An essentially chemically pure form of d-tubocurarine chloride has been made available recently. The purity of this form makes possible the adjustment of therapeutic formulations with previously unobtainable accuracy. Content can then be checked by physico-chemical means rather than bioassay methods. This new form of the drug also exhibits a higher margin of physio-

logical safety than previous forms of tubocurarine.³⁰

ANTITHYROID DRUGS

Tapazol A new antithyroid drug, 1-methyl-2-mercaptoimidazole, has been found to have a pronounced effect on iodine accumulation in the thyroid in quantities as small as 0.5 mg. When compared with thiouracil, methylthiouracil, propylthiouracil and 2-mercaptoimidazole, 1-methyl-2-mercaptoimidazole was found to possess greater action than any of these. It is rated as 100 times as potent as thiouracil. However, in clinical studies it is observed to be 20 to 50 times more potent than thiouracil. The optimum dosage is 2 to 5 mg. every 8 hours. No toxic reactions have been observed following its use.

Eighteen patients with hyperthyroidism were selected for the clinical trials. Of the three patients with toxic diffuse goiter 2 showed remission of symptoms in about 8 weeks with a dosage of 2 mg. every 5 hours, and 1 in about 8 weeks with a dosage of 5 mg. every 12 hours. Two mg. every 8 hours, 5 mg. every 12 hours and 2 mg. every 12 hours were the respective dosages necessary to effect remissions in 3 patients with toxic adenoma in 5 to 6 weeks. Ten patients given 1 mg. of the new drug instead of 25 mg. of propylthiouracil experienced satisfactory control of symptoms. In the 2 patients with mild relapses the symptoms were controlled by a dosage of 2 mg. every 12 hours.

1-methyl-2-mercaptoimidazole appears to resemble propylthiouracil in its antithyroid effects but it has about 26 times greater potency. Further investigation is necessary to obtain a true picture of this new drug and any possible toxic reactions it may have. Thus far none has been observed.³¹

ARTHRITIS

ACTH and Potassium Diet Tests on rats have shown that a high potassium

diet may offset the bad effects of ACTH. However, this may not be true in man since rats are physiologically not the exact counterparts of men. ACTH stimulates the adrenal cortex, resulting in drastic changes in physiological chemistry. In the destruction of body tissue nitrogen and potassium are liberated and excreted in large quantities and a loss in weight occurs. No loss of weight and no loss of nitrogen occurred when rats were given a high potassium diet followed by injections of ACTH. Further investigation is necessary since it has not been determined whether the potassium also interferes with the therapeutic effects of ACTH.³²

Acetoxy-Pregnenolone Another steroid which was recently described as being effective in the therapy of rheumatoid arthritis is pregnene, 3 beta, 21 diol-20 one-21 monoacetate. In some cases this compound is more effective than some of the other steroid hormones. It has been used successfully in the treatment of rheumatoid arthritis, lupus erythematosus, inflammatory rheumatism, osteoarthritis, other collagen diseases, menometrorrhagia, and certain ophthalmic conditions.³³

Cortisone and Insulin The cost of therapy and the small quantities of cortisone available have served as limiting factors to its use. However, a recent discovery of synergism between insulin and it may help to ease the situation. Earlier laboratory studies of the action of steroid hormones on the adrenocortical enzyme system *in vitro* resulted in the development of the hypothesis that insulin might be a synergist to cortisone. Thus more complete utilization of cortisone by the body tissues could be accomplished and the same clinical effect could be achieved with smaller doses. Cortisone is known to bring about the synthesis of a tissue carbohydrate and it was thought that insulin might increase this activity by making activation-products of glucose readily available to the tissues without necessitating conversion from amino acids. By such

a reduction of the usual dose of 100 mg. daily not only will the cost of therapy be decreased but also the undesirable side effects of cortisone might be eliminated.

Recently this hypothesis was tested clinically on 12 patients with rheumatoid arthritis. In these patients the duration of the disease was 6 weeks to 20 years, and its progression in stage I to IV; there were 9 females and 3 males, their ages 28 to 67 years. Following routine appraisal studies the patients were given 12.5 to 50 mg. of cortisone acetate in aqueous suspension and 20 to 60 units of plain insulin in aqueous solution daily by injection in single or divided doses during successive ten-day periods. No clinical improvement was observed in 10 days in 4 patients receiving 12.5 mg. and 20 units, respectively. Of 8 patients receiving 25 mg. and 40 units for ten days, 6 exhibited a rapid fall in sedimentation rate and 4 had definite signs of clinical reversal. In order to arrive at more rapid clinical changes, all 12 patients were advanced to 50 mg. and 40 units for ten days, during which time 10 progressed to normal sedimentation rates and 8 to well-marked clinical reversals, grade I and II. It is believed, however, that further clinical benefit was available at the 25 mg., 40 unit dosage.

During the 30-day period none of the usual side effects from cortisone was observed with the possible exception of 1 patient who developed edema of the ankles. Hypoglycemia caused little difficulty, being readily controlled when it occurred, and was not related to the degree of response. The patients gained 4-29 lbs. in weight.

Although further investigation of this synergistic effect is necessary the preliminary results accomplished open the way for numerous other possibilities in applying the principle observed.

Desoxycorticosterone Acetate and Ascorbic Acid A combination of

desoxycorticosterone acetate and vitamin C given parenterally has shown improvement in most patients with chronic forms of arthritis. The DeCourcy Clinic recently confirmed reports from other clinics here and abroad. The combination has been found particularly effective in patients in the acute phase of rheumatoid arthritis. A dose of 5 mg. of desoxycorticosterone acetate is administered intramuscularly followed within five minutes by 1 Gm. of ascorbic acid intravenously. Palliation of symptoms is obtained in a considerable number of degenerative joint disease (osteo-arthritis) similarly treated. As a result of the improvement physiotherapeutic and orthopedic measures can be more effectively applied. Some firms are marketing the two drugs separately whereas others have made them available in one ampul.

Glucuronolactone To a series of 50 patients suffering from various types of arthritis glucuronolactone has been administered in syrup or tablet form. The dosage employed ranged from 10 to 15 gr., given 3 or 4 times a day. Therapy was continued from one week to a year with an average of about 2 months. The best results were obtained in the treatment of sciatica in which all 5 patients obtained complete relief or major improvement. The least benefit was obtained in the treatment of rheumatoid arthritis in 14 patients, only 5 of whom obtained major improvement. Major improvement was obtained in 2 of 4 patients with mixed arthritis, 2 of 2 with gout, 8 of 16 with osteo-arthritis, 1 of 2 with the shoulder-hand syndrome, 1 of 2 with Marie-Strumpell disease and 1 each having infectious arthritis and palindromic arthritis. All of the patients had previously received other types of arthritis therapy without lasting benefits. The benefits from the glucuronic acid therapy in the cases of rheumatoid arthritis often seemed to cease with the end of therapy. The patients with osteo-arthritis who re-

ceived the most benefits from this therapy had had the disease for less than one year. The only side effects noted were in three patients and consisted of flushing of the face, diarrhea, and gastric upset.

Another report stated that glucuronolactone has brought improvement to an average of about two-thirds of the patients with various rheumatic disorders in whom it has been tried. In one series of 256 cases 34 per cent showed marked improvement, 34 per cent showed moderate improvement, and the remaining 32 per cent showed little or no improvement. Glucuronic acid and its various salts have been found to have very low toxicity.

Glucuronolactone, the crystalline gammalactone of glucuronic acid, appears to act by direct attack upon the factors responsible for the arthritic process. It exerts little or no analgesic action, the clinical improvement being produced through its influence upon the metabolism of bone, tendons, and cartilage.²⁴

Medinova Arthritis deformans, spondylosis deformans, polyarthritis acute and chronic, infectious arthritis, and muscular rheumatism have been treated effectively in some cases by a product combining salicylamid and ascorbic acid.²⁵

Oral Cortisone Cortisone was discussed in last year's review, so that it will not be considered in detail here. However, the recent reports of its effectiveness when given orally necessitates its mention. Considerable research has been conducted on this drug in the past year.

The dosage of cortisone intramuscularly is 300 mg. the first day, 200 mg. the second and 100 mg. daily thereafter. Consequently, when the drug was prepared in 100 mg. tablets for oral administration the dosage given was the same. In two patients the maintenance dose was increased to 200 mg. daily after they had been given 100 mg. for a few days. The results in the patients studied revealed that cortisone is effective orally and pro-

duces results comparable to those brought about by parenteral administration. This new development will be of considerable value in treating patients with a chronic illness such as rheumatoid arthritis. However, the therapy must be carefully controlled so that use of such a potent substance is not abused.

DENTAL AID

Thistledown Seaweed Practical trials by British dentists have shown that thistledown seaweed is effective in stopping gum bleeding after tooth extractions. One application is all that is necessary in most cases and the substance disappears without any trace in about an hour after application. This seaweed, found on the North Scottish coast, consists chiefly of sodium alginate. One of the British textile firms processes it into powder form and then dissolves it in water to form a thick solution. This in turn is filtered and forced through a series of hair-fine jets in a platinum cap. The threads are passed into a solution which converts them into insoluble calcium alginate. These crude fibers are then tested, dried and woven into gauze by ordinary textile machinery. After partial reconversion to sodium alginate and careful neutralization the material is dried and tested. Unlike some products used for stopping bleeding this material does not affect penicillin. It is hoped that it may be used in general surgery as well as in dentistry. In the latter field, at present, a crown of buff-colored feather-weight material is inserted into the tooth socket and the bleeding stops. The gauze disappears.

DIABETIC AIDS

Insulin Mixtures The use of insulin mixtures in controlling diabetes was first reported in 1937. By mixing regular insulin in the proper proportion with protamine zinc insulin it was found that only one injection a day was necessary. In addition this intermediate type of action

resulted in the elimination of most of the glycosuria during the day, a common occurrence when protamine zinc insulin alone is used. Further investigation was carried out to determine the exact activity of various mixtures. It was found that it was possible to prepare mixtures of the two insulins which would give any desired intermediate action between the two in respect to promptness, intensity and duration of effect. Unfortunately any gains in intensity and promptness were achieved at the expense of prolongation of action and vice versa. Decisive intermediate effects could not be achieved until a mixture containing at least equal quantities of the two insulins was used. In cases of severe diabetes mixtures containing 2 or 3 times as much regular insulin as protamine zinc insulin were found to give better results. These mixtures apparently gave good intermediate effects because of the reduction in the quantity of protamine, zinc or alkaline buffer. From these tests it was evident that a different physical or chemical form was responsible for the intermediate effects rather than the composite action produced by the simple fractions of soluble insulin and insoluble protamine zinc insulin. The clinical tests with these mixtures revealed that better results were obtained following the administration of one of them once daily than if the protamine zinc insulin or unmodified insulin was given alone or administered separately at the same time. Despite the efficiency of such mixtures there were difficulties encountered in mixing. Recently a new and simplified method of mixing has been reported to be successfully used. Under sterile technic a 25 gauge needle is inserted into each of the bottles containing the two types of insulin. The bottle of regular insulin is inverted, the needle applied to the syringe and the proper dosage withdrawn. Next the bottle of protamine zinc insulin is inverted, the same syringe applied to that needle and the dose of pro-

tamine zinc insulin is withdrawn. The needle and syringe are then withdrawn together and a small bubble of air drawn into the syringe. The syringe is tilted to mix the insulins, the air is expelled and the mixture is ready for injection. By means of a mechanically reproduced 8 by 11 inch card illustrating these various steps the originator of the technic explains and demonstrates it to his patients in less than 2 minutes. The patient is given a copy of the card of instructions with the proper doses indicated for him written in the margin next to the respective bottles.

NPH 50 At the Mayo Clinic it has been the custom to give protamine zinc insulin only to patients requiring 20 units or less daily. Mixed insulins (1.5 to 3 units of regular insulin to 1 unit of protamine zinc insulin) are given to those requiring more than 20 units daily. The same objections as mentioned previously were encountered but the satisfactory control of the condition by this therapy overcame the objections. Clinical trials of a specially modified insulin have been conducted by the Mayo Clinic. Known as NPH 50 it is a neutral crystalline protamine zinc insulin and has an action intermediate between that of regular insulin and protamine zinc insulin. The prediction has been made that some preparation of insulin with an intermediate effect will eventually not only replace protamine zinc insulin and insulin mixtures but will improve and simplify the therapy of diabetes. There is some indication that NPH 50 may be the preparation.

The name NPH 50 is derived from N for neutral, P for protamine and H for Hagedorn who, along with Krayenbuhl and Rosenberg, developed the method for preparing the crystals of protamine zinc insulin used. The figure 50 is indicative of the approximate amount of protamine (0.50 mg.) used in preparing 100 units of the new insulin. These crystals are beautiful tetrahedrons having shiny faces

and sharp, smooth edges. Under proper conditions they are quite stable and can be made into suspensions to which the regular insulin can be added without losing the quick action so characteristic of the regular soluble insulin.

Twenty diabetics were selected for the trials of NPH 50. These were all ambulatory and the severe diabetes was reasonably satisfactorily controlled by means of tailor-made insulin mixtures. After 2 to 6 months a summary of the results revealed that tests for glycosuria in 9 cases (6 of which also required supplements of regular insulin) were more satisfactory and in 5 the tests were the same. Eighteen expressed the opinion that NPH 50 was more convenient and 17 thought it more satisfactory. No untoward reactions and no local or general allergic reactions were observed.

Overdosage of NPH 50 caused insulin reactions which were more easily recognized than are those induced by protamine zinc insulin. Hunger, perspiration, palpitation and restlessness were the symptoms most commonly encountered.

From this limited trial it was concluded that NPH 50 should prove to be at least as satisfactory as the insulin mixtures and even more so than protamine zinc insulin alone. Regular insulin also is needed in very severe cases but since it can be added to a suspension of NPH 50 without loss of potency it is more convenient than the syringe mixing of the regular and protamine zinc insulin. NPH 50 has an increased intensity of action in the first several hours after administration and when the need for insulin is increased while ingesting food. During the fasting hours of the night its activity is less intense but more prolonged.³⁶

Sucaryl Sodium The first non-caloric sweetening agent that can be used in cooking, baking and canning without loss of sweetness was made available recently. It is designed especially for use by diabetics and for reducing and other

diets which call for limitation of calories or carbohydrates. It has several advantages over saccharin, chief of which is the heat stability of the new product. Saccharin, the only other non-caloric sweetener on the market, decomposes in boiling solutions and as a result cannot be used to sweeten foods during cooking processes. Other points in favor of the new sweetener include the fact that when used in average household proportions, it has no trace of the bitter after-taste commonly associated with saccharin. According to the clinical investigators, this substance has been found to have a more natural sweetness, closely resembling that of sugar.

Chemically this new sweetener is sodium cyclohexyl sulfamate and it is stable. The effervescent tablets dissolve very quickly in warm solutions. One-eighth gram is equivalent in sweetening power to one teaspoonful of sugar. Until more clinical reports are available, it is recommended that adult patients limit their daily intake to eight tablets (1 Gm.). Patients suffering from severe kidney impairment should use only moderate amounts and under medical supervision. It is also available in liquid form for greater convenience in many types of cooking.³⁷

DIAGNOSTIC AIDS

Bromkontrast A brominated refined fatty oil, acid-free and free of bromine and bromine ions, is being tested as a contrast medium in bronchography. In 21 cases it was found to be highly satisfactory. Within 10 minutes after the procedure the medium was completely coughed up. It does not activate tuberculous processes.

It is prepared in two viscosities dependent upon the oil content. The viscous product is adjusted so that it does not enter the finer bronchi. It contains 45 per cent Br. If the clinical and x-ray findings do not agree with the bronchograph

another one must be made using the non-viscous product. Only 20 cc. should be used so that not all the bronchial stems are filled. Some patients may be too weak to cough up the medium and would smother if too much was used. The non-viscous preparation contains 20 per cent Br and also is indicated for fistula filling and sialography. The product is stable for a maximum of 3 months.

Skin test for Mumps A skin test for mumps has been devised based upon a tuberculin-like reaction following the intradermal injection of an antigen composed of a formalin-killed egg grown virus partially purified by centrifugation. Florman, Fischer, and Moloshok reported before the Clinical Research Meeting at the New York Academy of Medicine the results of a study involving 135 skin tests of this antigen. Among the 135 individuals tested 26 were first cases of mumps and the rest were contacts. Among these contacts 80 were adults and 29 were children.

All of the first cases gave negative reactions during the illness but several months later 5 of 6 retested gave clearly positive tests and 1 questionably positive. Among the contacts 60 were found to give positive tests and 49 negative tests. Within 3 weeks 12 of the contacts became ill with clinical mumps. Of these 12 only one was a previously positive reactor while 10 of the other 11 previously negative reactors were children.

The conclusion has been reached, however, that although the test is useful in predicting susceptibility to mumps a positive skin reaction is not conclusive evidence of resistance to the disease.

Urokon Recently a new iodine compound was reported to have certain advantages over the existing preparations as a diagnostic aid for excretory and retrograde urography. It is not only less toxic but also provides greater opacity to x-rays. Chemically this new compound is sodium-3-acetyl amino-2, 4, 6-tri iodobenzoate ($C_9H_5NO_3I_3NA$). The generic name is

sodium acetrizoate. It has a molecular weight of 578.9 and contains 65.8 per cent of iodine. Occurring as a white, crystalline powder it is freely soluble in water.

The first clinical trials of sodium acetrizoate revealed that it caused a few side reactions. The first tests were made with a 50 per cent solution but it was shown that a 30 per cent solution produced less side reactions without changing the quality of the urograms. Further studies were then made with the weaker solution in doses of 25 ml. Comparative tests with two other available media revealed that side reactions from sodium acetrizoate occurred in but 19 per cent of the patients. The other two media caused reactions in 62 and 36 per cent respectively. The side reactions observed included nausea, vomiting, arm pain, foreign taste, mild urticaria, severe urticaria, flush, dizziness and sneezing. The greatest reduction in reactions by the new medium was observed in the foreign taste, arm pain and nausea groups. No delayed reactions were observed in any patients inclusive of those with impaired renal functions.

Tests of the quality of the pyelograms made with sodium acetrizoate have shown them to be consistently good.

Although this medium is given over a period of 4 minutes it appears in the kidney earlier and disappears more rapidly than another medium used as a comparison. Sodium acetrizoate is believed to be better tolerated for retrograde use than is sodium o-iodohippurate dihydrate.

The usual toxicity tests showed that no toxic symptoms developed even when 4 to 6 times the quantity per Kg. of body weight necessary to x-ray the kidneys was given. Rats given 0.2 Gm. per Kg. of body weight for 2 weeks showed no microscopic changes in their kidneys.²⁸

DRUGS USED FOR EFFECTS ON HIGHER NERVE CENTERS

Ether MacCurdy of the New York State Psychiatric Institute has announced a new

treatment for certain types of mental illness. It involves the use of ether administered intravenously. This therapy compares favorably with electric shock treatment and has certain advantages as follows: (a) Ether therapy may be applied to patients with physical conditions which prevent the use of electric shock therapy; (b) because there are no convulsive seizures, there is no danger of fractures or dislocations; (c) there is no evidence of anxiety when ether treatment is given as compared with patients undergoing electric shock treatments; (d) the patient has a sense of well-being and is in good contact with the physician at all times; (e) no unpleasant after effects, no confusion or disturbance of memory are experienced.

Ether has been used in treating mental ills before but it was given by inhalation and was only temporary in effect. In this new therapy it is injected slowly intravenously using a technic similar to that used for blood transfusions. Each treatment lasts from two and a half to three hours and is administered daily for from ten to twenty-seven days dependent upon the patient's requirements. After each treatment the patients experience a slightly elated feeling.

Thus far this therapy has been effective in affective or emotional psychoses and psychoses with depressive features.

Somnoform A dental anesthetic composed of a mixture of ethyl chloride, methyl chloride and ethyl bromide has now been found to be of value as a "truth drug." It affects the nervous system in such a manner that inhibitions are released and the patient talks freely about the memories which have been suppressed and have caused mental disturbance. This combination of drugs is believed to be the closest to the ideal "truth drug." It is easy to administer by inhalation, does not excite or induce nausea and vomiting and can be administered over an adequate period without bad effects. The patient

is completely under for about two minutes following which he can be interviewed for five to ten minutes. If necessary this can be extended to half an hour by another administration.³⁹

DRUGS USED IN THE TREATMENT OF CANCER AND LEUKEMIA

ACTH and Cortisone Both ACTH and cortisone have been shown to bring relief in acute leukemia; however, they do not effect cures. It is believed that their value will be in the search for the cause of this disease rather than in the cure. However, this knowledge eventually may lead to the cure. Remission of some symptoms has been accomplished for approximately three weeks to two months. Second remissions were brought about in four patients. In eleven of the thirty cases there appears to be some prolongation of life.

In children, ACTH has been responsible for alleviating all of the desperate symptoms after a few days' administration. Further work is necessary on this subject.

Guanazole A new cancer growth inhibitor, 5-amino-7-hydroxy-1- $\sqrt{\text{triazole}}$ [a]-pyrimidine is being given intravenously in doses of 200 mg. daily. The intravenous solution is made up by adding an equimolar quantity of sodium hydroxide to 5-amino-7-hydroxy-1- $\sqrt{\text{triazole}}$ [d]-pyrimidine. The latter is then made up in concentration of 5 mg. per cc. in physiological saline solution. This new drug is also being tested for its effectiveness orally, given in capsules.⁴⁰

Testosterone and Thyroxin Testosterone has been used effectively in treating breast cancer in women. However, it does produce masculinizing effects. These effects have been offset somewhat by the simultaneous administration of thyroxin according to Loeser. In addition the use of the two hormones has also shown good results in a few cases of cancer of the ovaries and of the uterus.

Either the female or male sex hormone alone tends to produce a deficiency of thyroid hormone thus disturbing the general body health. Consequently, use of the thyroxin offsets this effect.

IMMUNIZING AGENTS

Mumps Vaccine Prior to the past year there was no vaccine available for the prevention of mumps. One has now been developed and is designed primarily for the immunization of large groups of children or adults, housed together in close quarters, as in schools, camps, institutions, or military installations, where a mass outbreak of mumps would cause serious inconvenience. It is, therefore, not recommended for routine use in the prevention of mumps in childhood, inasmuch as it confers immunity for only about one year and annual revaccination is necessary. Because mumps in adults is a serious disease it may be advisable also to administer the vaccine to susceptible doctors, nurses, college students, military personnel, etc.⁴¹

NEW EQUIPMENT

Electrohysterograph A new electrical apparatus can now be used to reduce the risks of childbirth. Developed by Steer at the College of Physicians and Surgeons, Columbia University, the machine will make it possible for the physician to determine whether labor is going to be normal or abnormal and whether the pains are positive labor pains. More than 200 patients have been tested thus far. Known as an electrohysterograph the apparatus records the electrical activity of the uterus as it contracts during labor. As the uterus contracts it produces electrical activity which can be picked up by electrodes on various parts of the body. Six wires are fastened in pairs to the outer abdominal wall and they transmit the impulses to electrically-activated pens which write on chemically sensitive paper. The machine can be used right at the bedside. It is modelled after the electro-

encephalograph. The electrical patterns produced during normal labor differ considerably from those produced by abnormal labor. Thus the obstetrician can make preparations.

Sterilizing Jar Lid Physicians are frequently confronted with the difficulty of keeping outside surfaces of ampuls sterile when submerged in sterilizing fluid contained in a jar. Ampuls containing powders, such as some spinal medications, are difficult to submerge resulting in the expedient of placing pads or sponges to



Fig. 1. Metal lid with attached steel disk holds ampuls under fluid. (after Daniel C. Moore, M.D.)

weight and keep the entire ampul below the sterilizing liquid surface. Because this method is cumbersome contamination may occur during emergencies as well as considerable delay.

In the *Journal of the American Medical Association* recently there was described an improved lid for sterilizing jars. This lid provides for better contact with sterilizing fluid. It is a time-saver for personnel and simple to construct.

It consists of an ordinary sterilizing jar cover with a perforated disk on a post soldered or welded to it. The disk is made of 1/8 or 1/6 inch (0.32 to 0.42 cm.) stainless steel, and the post is a solid stainless steel bar 3/4 inch (1.90 cm.) in

diameter. This assures enough weight in the lid to submerge ampuls. To facilitate removal of the lid, holes are drilled in the disk allowing the sterilizing fluid to pass through. When the lid is removed, the ampuls automatically come out of solution and are easily handled. There is no searching under cotton or gauze for the ampuls. With replacement of the lid, the ampuls are automatically submerged ready for use again.

Atherosclerosis and Cholesterol

It was learned some time ago that there is a relationship between an excess concentration of cholesterol in the blood and the formation of the ulcers in the arteries which are responsible for hypertension and coronary thrombosis. A study of these ulcers revealed that the base contains an excess of cholesterol, phospholipids and fatty acids.

Hypercholesteremia is commonly associated with atherosclerosis, diabetes mellitus, nephrosis and myxedema. Because of this association further studies were conducted. It was found that these small ulcers often caused death in adults between thirty and forty years of age so that it was not necessarily a development of old age. However, further study showed, too, that some individuals have a high concentration of cholesterol in their blood but still do not develop any coronary disease. Investigation was then directed toward determining whether the structure of the molecule might be responsible.

Animal studies revealed molecules of varying sizes and the larger ones carried more cholesterol. Tests on humans revealed that their blood, too, contained both small and large cholesterol-containing molecules. Small molecules of 3 to 8 Svedberg units contained 25 per cent protein in addition to some cholesterol whereas the S 10 to 20 class contained 30 per cent cholesterol and little or no protein. It is the S 10 to S 20 molecules that are always found in patients with atherosclerosis or in patients who are most

likely to develop the condition.

In tests run on more than 700 patients it was found that these molecules were rarely present in the blood of normal women under forty, but were in one-third of the men of the same age level. This confirms the fact that young women are less likely to have this disease than are young men. The increase in frequency and severity of atherosclerosis above the age of forty was shown by the fact that fifty per cent of men and women had the larger molecules in their blood. Atherosclerosis is a serious complication in diabetes and a high percentage of this group also showed the presence of the larger molecules. In 104 men and women with coronary thrombosis 97 per cent also showed concentrations of the larger molecules in the blood.

The number of these larger molecules can be reduced in the blood by decreasing the quantity of fat in the diet. If this is continued they may even disappear within two weeks to a month's time. The quantity of cholesterol in the blood does not necessarily indicate the presence of the larger molecules. There may be just as many in the blood of a person with a low cholesterol level.

This discovery is considered to be of value in diagnosing impending atherosclerosis before the characteristic symptoms develop and also for predicting the susceptibility of the individual.

Blood Preservation One of the great difficulties in handling blood for use therapeutically has been the preservation of the various components. As soon as blood is withdrawn from the body deterioration begins. Glass flasks and rubber tubing are destructive to certain elements and in particular, the white cells. The calcium in the blood is responsible for speeding coagulation. For this reason citrate was added to prevent coagulation. However, citrate does destroy some blood components.

Recently Cohn at the Harvard Medical

School demonstrated new apparatus and technics for collecting and preserving blood and for separating it into its fractions. A plastic receptacle has been designed which has a narrow neck filled with resins which remove the calcium from the blood as the blood flows into the container. A plastic tube of the same material as the receptacle is used to draw the blood through. This plastic tubing also will be used in direct transfusions, making them more beneficial since it is believed that the rubber tubing now used affects the blood so that it is not completely viable as it is transfused.

New apparatus and technics also have been developed for separating the many components, and several new components have been separated also.

Blood Tests A flame electrophotometer has been developed by Brown of Hahnemann Medical College which determines the concentration of potassium and sodium in a specimen of blood serum in five minutes as compared to twenty-four hours by the methods now used. The flame is composed of propane gas and oxygen. As a small container of blood serum is placed near it the flame becomes brilliant depending upon the concentration of sodium and potassium. The delicate electric meters record the brilliance and measure the chemical content. A group of standard specimens are used for comparison to determine the exact quantities. Use of this apparatus will be invaluable in the diagnosis of shock, heart disease with kidney involvement, meningitis and malignant hypertension with uremia. It will enable the physician to make the diagnosis much more rapidly. The apparatus is also being used for research into heart diseases and for determining the water balance between the tissues and the blood stream.

Blood Typing A faster, easier and more accurate blood typing system has been developed by Taylor recently. In addition, it requires less clerical work and can be readily taught to others. The in-

dividual to be tested is given a card on which he fills out his name. Three smears of his blood are then made on the card and 3 serums are applied to each. The red and blue dyes are used to match type A, B, AB or O and the colorless solution is for determining whether the Rh factor is positive or negative. When the blood is dry on the card the card can then be filed as a permanent record. The patient is given a card with the necessary information on it for his own records. This technic has been tested on 2,000 people without an error.

Diagnosis of Fungus Infections

At times, various fungus infections prove difficult to diagnose. Recently the University of Pennsylvania Medical School reported the discovery of a simple and accurate diagnostic technic for the many known varieties of fungi. Cellulose is present in most plant structures and cells and since fungi are plants they contain cellulose. Human beings are considered in the animal class and animal tissues do not contain cellulose. Therefore, the discoverers of this diagnostic technic reasoned that a dye which colors cellulose might be useful in the differentiation.

Thus it was discovered that fuchsin of the Hotchkiss-McManus stain when applied to the infected areas dyed the cellulose-containing fungus cells a deep magenta and did not affect the surrounding tissues. After the discovery the technic was tested in an epidemic of tinea capitis. Microscopic examination of the hairs in the follicles of afflicted patients showed that they were surrounded with a necklace-like formation of garnet globules after the basic fuchsin was applied.

The deep-seated fungus infections which are so often diagnosed as malignancies because of the x-ray picture are differentiated by applying the basic fuchsin to biopsy specimens, sputum, urine, lymph and other effluvia from afflicted areas.

Epileptic Mice By inbreeding mice for more than 50 generations at the Roscoe

B. Jackson memorial Laboratory of Bar Harbor, Maine, a strain has been produced which goes into convulsions when a doorbell is rung. These mice will be used to test the effectiveness and dosage of drugs with possible value in treating epilepsy and other brain and nervous system conditions. Seventy-five per cent of the males and 65 per cent of the females die of convulsions when the bell is rung.

Frozen Sleep Surgical repair of dogs' hearts has been accomplished by the use of frozen sleep to stop the heart temporarily. When the temperature of the body drops just below 90 degrees Fahrenheit unconsciousness occurs. All reactions are slowed down. The heart beats more slowly, and need for a rapid supply of oxygen decreases and the slower rates keep the individual alive. No bad effects have been observed in persons kept unconscious in this manner for several days.

As a result of experiments on dogs it is believed that this can be used on humans when surgery on the heart is necessary. Frozen sleep would allow more time than is now allowed by ordinary anesthetics.

Gallstones High-frequency sound waves have been effective in breaking up gallstones in rabbits and dogs. By means of an abdominal incision the ultra-sound was introduced directly on the gallstones without damaging the surrounding tissues. The gallstones were broken into small pieces which then passed into the intestines and were excreted. Human gallstones were tested by placing them in loops of rabbit intestines brought outside the body. About eighty per cent of the stones were broken by a burst of ultra-sound. Live tissue can be protected by transmitting the sound through water. The tissue is as elastic as the water and stretches without tearing.

Automatic Administration of Anesthesia A new machine has been developed by Bickford at the Mayo Clinic, which allows the patient to automatically

administer his own anesthesia during surgery. Called a servo-anesthetizer it is an electronic device which connects an individual's brain waves to a pump which sends a fixed amount of anesthetic agent into a vein or an ether vaporizer. Nicknamed "The Brain" this machine will not eliminate the need for the anesthetist and other technicians for it will still be necessary to supervise the administration of the anesthesia. However, he will be relieved of some of the tedious work and he will be aided in maintaining the patient at a more constant level of anesthesia. The new machine shows the change in depth of anesthesia several seconds before the usual visible signs on the patient. The administration of the drug is automatically and instantly adjusted to compensate for the change.

Small wires with sharpened ends bent to form hooks are fastened painlessly to the scalp of the patient. They carry the output of the brain waves to the machine. The energy output of the brain waves decreases as the anesthesia deepens and as this occurs it activates a relay system which controls the injection of the anesthetic agent into the vein or other vaporizer. The brain waves can be viewed continuously on a small screen in front of the machine, or can be inscribed on paper tape for permanent recording. The patient is prepared in the usual manner and then the machine is brought into use.

Hemoglobin Crystallization Drabkin, of the University of Pennsylvania Graduate School of Medicine, has crystallized hemoglobin for the first time. It is an extremely difficult process and is carried out by placing the hemoglobin in solution in a sausage skin immersed in a salt solution. By osmosis the water leaves the hemoglobin and the salt passes into the hemoglobin solution. Crystals form when the hemoglobin solution becomes sufficiently concentrated. When photographed under a polarizing microscope they are very beautiful and gem-like.

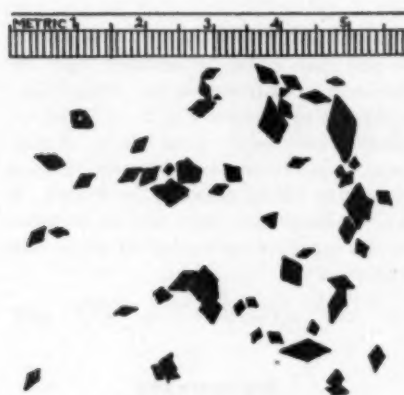


Fig. 2. Diagrammatic drawing after a photograph showing the size of macrocrystals of human oxyhemoglobin. (after Drabkin)

Drabkin also invented a microscopic cell which enables a spectroscopic examination of the blood to be made as it circulates in the body.

Instrument for Treating Cancer Shimkin, of the San Francisco Laboratory, sponsored by the University of California and the National Cancer Institute, has developed an instrument which shoots anti-cancer drugs with almost pinpoint accuracy into deeply buried malignancies. A ribbon-like tube or catheter with a nozzle on one end is inserted at a convenient place in the artery and pushed farther along until the nozzle reaches a secondary artery supplying blood to the cancerous area. The plunger on the outer end of the tube is then used to force the drug into the artery where the blood stream carries it directly to the cancerous area. Because most drugs which destroy cancer cells also destroy normal cells this method may allow for the use of higher-concentrations of drug. The apparatus, however, is still in the experimental stage.

Invert Sugar Weinstein, at a meeting of the American Therapeutic Society, reported on a technic for more rapid intravenous feeding of carbohydrates to patients who are unable to take nourishment

orally. In the past dextrose has been given intravenously to supply the carbohydrate necessary but in order to supply enough calories it must be given all day. Using invert sugar, Weinstein has found that he can give 100 Gm. in 56 minutes and 98.4 to 99.4 per cent of the sugar is assimilated. Four hundred calories are supplied by 100 grams, so that in a relatively short time sufficient calories can be administered. Such feeding is generally needed in the first 3 to 5 days after an operation. However, it is also helpful in building up the reserve of patients who have been ill for a long time before an operation. Further studies on the use of invert sugar are being conducted. More promising results have been obtained by mixing proteins and the invert sugar so that only one intravenous treatment is required.

Kidney Stones Vermeulen, Goetz, Grove and Ragine have reported 3 ways of dissolving kidney stones in rats. It is hoped that at least one of the 3 methods can be applied to kidney stones in human beings, thus eliminating pain and surgery.

Kidney stones are composed of calcium, magnesium and other chemicals which form hard deposits in the kidneys. In the test animals, stones were produced by placing tiny flat pieces of zinc in the rats' bladders to serve as seeds for the growth. One method employed to dissolve the stones was to increase by 4 times the urine output. This was accomplished by giving the rats great amounts of sugared water daily for six weeks. Stones did not develop in rats placed on this regimen immediately and in those which already had stones they were dissolved. By letting the stones develop, removing and weighing them and then replacing them in the rats before allowing them to drink lots of liquid this latter fact was discovered. The same effects were achieved by adding ammonium chloride to the food thus making the urine more acid. Similar results

also were obtained by decreasing the amount of magnesium in the rats' food.

Another interesting but puzzling fact was uncovered in the experiments as well. When a radioactive substance was placed in the bladder no stones formed whereas the same substance without radioactivity produced stones. Further investigations are being made on this subject.

Sterilizer Sterilization of vaccines, serums and other pharmaceuticals can now be accomplished after they have been placed in containers and packages by means of high-voltage cathode rays. An electrostatic generator at M. I. T. produces 3,000,000 volt cathode rays which sterilize such substances as penicillin, streptomycin, surgical sutures and anticoagulants, after they are sealed in glass containers. There are no detectable effects on potency or other properties. In the sterilization process the temperature is raised less than eight degrees.

Ultra-Violet Sterilization It has been common knowledge for some years that certain cells and micro-organisms may again live after they have been killed by ultraviolet light or x-rays. However, in more recent studies it has been shown that ordinary light restores such killed organisms to life. The theory has been advanced that the ultraviolet light alters

some constituent in the cell thus killing it and that visible or ordinary light restores this constituent to the original condition. Experiments with x-ray killed organisms revealed the same effects. A mixture of ultraviolet and ordinary rays reduced the killing power of the former. It also reduced the frequency of mutation of the organisms as caused by ultra-violet radiation.

—To be concluded next month.

Bibliography

28. Ammivin is available from the National Drug Co. and Eskel from Smith, Kline and French Laboratories.
29. Panparnit is marketed by Geigy Co., Inc.
30. Transandino Company.
31. Tapezol is being investigated by Eli Lilly and Co., Inc.
32. Available as ACTHAR from Armour Laboratories.
33. Marketed as Acetoxy-Prenolon by Schering Corporation and as Artisone Acetate by Wyeth, Inc.
34. Available in limited quantities for medical investigation under the name Glucurone by C. S. C. Pharmaceuticals, Division of Commercial Solvents, Inc.
35. Marketed as Medinova in Europe.
36. NPH Insulin is available from Eli Lilly and Co., Inc., Sharp and Dohme, Inc. and E. R. Squibb and Sons.
37. Sucaryl Sodium is available in powder and liquid form from Abbott Laboratories, Inc.
38. Urokon is marketed by Mallinckrodt Chemical Works.
39. Somnoform is available from Stratford-Cookson Co.
40. Guanazole is under investigation by Lederle Laboratories Division, American Cyanamid Co.
41. Mumps Vaccine is available from Lederle Laboratories Division, American Cyanamid Co. and Eli Lilly and Co.



Pain Relief for Shingles Patients

Intramuscular injection of Protamide, a colloidal solution of a processed and denatured proteolytic enzyme obtained from the glandular layer of fresh hog stomach, gave good to excellent relief from the very disturbing pain of shingles in 28 of 31 cases. The 3 cases in whom relief was not obtained had other complications.

According to Marsh, in *U. S. A. F.*

Med. J. (1:1045 (1950)), the vesicles and crusts which accompany herpes zoster disappeared more rapidly than with other treatment. The relief from pain was also considered better than that obtained with pituitrin, thiamine hydrochloride, auto-hemotherapy, sodium iodide, or high voltage roentgen therapy. No reactions either local or systemic, to Protamide were observed. Routine urinalyses and blood counts were performed in all cases.

Chronic Congestive Failure

The Use of Thiomerin for Ambulatory Patients

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In the continued search for a new mercurial diuretic which might have certain advantages over existing preparations, a new mercurial diuretic, Thiomerin, was recently introduced. Clinical trial of this subcutaneously administrable diuretic was suggested by Lehman¹ who, in a comparative study of the cardiac toxicity of the mercurial diuretics, found that the intravenous administration of Thiomerin in anesthetized cats caused no immediate changes in the electrocardiogram in doses up to 160 times the maximal tolerated dose of Mercuhydrin and up to 225 times that of Mercuzanthin. Thiomerin, the disodium salt of N-(-carboxy-methyl-mercaptomercuri-B-methoxy) - propylcamphoric acid, is chemically identical with Mercuzanthin (sodium salt of B-methoxy-hydroxy-mercuripropylamide of cyclopentane dicarboxylic acid theophylline) except for the substitution of a monothiol for the theophylline. It is important to note that monothiols, unlike dithiols which inhibit diuresis, have been shown to reduce the cardiotoxic effects of organic mercurials without affecting diuretic

action². Dissolved at a pH of 7.5, it contains approximately 0.039 Gm. of mercury per cubic centimeter, as do Mercuhydrin and Mercuzanthin. Lehman, Taube and King³ found that the intramuscular injections in rats of each of the three drugs, Thiomerin, Mercuhydrin and Mercuzanthin, caused an initial inflammatory reaction and exudate. Microscopic studies showed the exudate was completely reabsorbed in those animals receiving Thiomerin but the microscopic changes present 96 hours following the injection of both Mercuhydrin and Mercuzanthin were thought to be irreversible.

Grossman, Weston, Edelman and Leiter⁴, reporting on the results of approximately 200 subcutaneous injections of Thiomerin, found the diuretic effect to be similar to that following Mercuzanthin and Mercuhydrin intravenously. Herrman, Chriss, Hejtmancek and Sims⁵ showed that Thiomerin is less toxic and that it can be given subcutaneously and has a more even diuretic action than the older organic mercurial diuretics. This was also noted by Stewart, McCoy, Shephard and Luckey⁶ who referred to the more even and persistent diuretic effects, sometimes lasting for several days. This action was es-

* From the Cardiac Clinic of Dr. Aaron E. Parsonnet (deceased), Newark Beth Israel Hospital, Newark, New Jersey.

pecially appreciated by patients who had become accustomed to little sleep on the night following injections because of profuse diuresis. When Thiomerin was substituted, certain patients remarked that less sleep was lost and the weight loss was more gradual and prolonged. Grossman, Weston, Edelman and Leiter⁷ demonstrated that the diuretic efficacy of subcutaneously injected Thiomerin is comparable to that of other mercurial diuretics administered intravenously or intramuscularly. Also, by studies on water, sodium, chloride, uric acid excretion, and glomerular filtration rate and renal plasma flow they showed that Thiomerin, like other mercurials, acts by decreasing tubular activity.

The reactions of Thiomerin* have been observed in the out-patient cardiac clinic of the Newark Beth Israel Hospital in 34 patients during a fifteen month period.

Materials and Methods The subjects were 34 ambulatory patients who presented evidence of excess fluid accumulation in the tissues secondary to well established chronic congestive failure of varying etiologies. Of these, the etiology was rheumatic heart disease—inactive in two, coronary arteriosclerosis in 13, hypertension in 2, and combined hypertension and arteriosclerosis in 17. All these patients were presumably on low salt diets but in most instances a review of the patient's diet would indicate that adherence to a truly acceptable diet was not forthcoming*. Ambulation was continued and encouraged in all instances as these patients reported to the cardiac out-patient clinic of the Newark Beth Israel Hospital—none of these patients were hospitalized and therapy other than the mercurial diuretic was not altered during the present study. Response to Thiomerin therapy was determined by the patient's immediate reaction to the injection, his subjective comment on diuresis and relief of congestive

signs and symptoms, and particularly by records of weight loss or gain as determined at every clinic visit. Clinical evaluation by medical personnel as regards response was of course noted. The daily urinary output was not recorded nor were chemical analyses of the urine or serum determined except in a few instances where such information was desirable in following the clinical course of the patient and not related specifically to the mercurial therapy.

The dosage of the Thiomerin never exceeded 2 cc., which is equal to about 80.0 mgm. of Mercury. This was rarely alternated with other mercurials but in 20 cases replaced Mercurhydrin in order to form a basis for comparison. On a few occasions where we attempted to return to an intramuscular preparation we met with such patient resistance that it was necessary to continue treatment with subcutaneous Thiomerin.

None of these patients was ever informed that this was a new or better drug. They were told merely that the method of administration was being changed. This lessened the likelihood of subjective influence upon the patient.

Observations A total of 1677 subcutaneous 2 cubic centimeter doses of Thiomerin was given to 34 patients. Seventeen of the patients were males and 17 were females whose ages ranged from 26 to 78 years. Seventeen patients received the mercurial for 12 months or longer and 20 patients had received Mercurhydrin until the Thiomerin was substituted. Most patients required one injection per week although several patients received two or even three injections per week. Three patients received over 125 injections and 17 patients received 48 or more injections during the 15 months of observation. None developed any evidences of mercury poisoning or sodium or chloride depletion.

Temporary local pain or tenderness was the most common complaint. Six pa-

*Thiomerin was supplied by Campbell Pharmaceutical Co., New York, N. Y.

Case No.	Age	Sex	Diagnosis	Duration of Observation	Total No. of Inj.	Previous Mercurials	Comparison With Other Mercurials
1	72	M	H.As.HD	15 Mos.	192	Mercurydrin	Same
2	46	F	HHD	11 Mos.	42	None	—
3	76	M	AsHD	15 Mos.	128	Mercurydrin	Same
4	68	F	AsHD	9 Mos.	39	None	—
5	78	M	H.As.HD	15 Mos.	64	Mercurydrin	Same
6	67	M	AsHD	9 Mos.	39	None	—
7	43	M	HHD	14 Mos.	60	Mercurydrin	Better
8	40	F	H.As.HD	15 Mos.	64	Mercurydrin	Same
9	74	M	H.As.HD	15 Mos.	126	Mercurydrin	Better
10	68	F	AsHD	15 Mos.	64	Mercurydrin	Same
11	70	M	AsHD	4 Mos.	17	None	—
12	44	F	HHD	3 Mos.	13	None	—
13	58	F	RHD	11 Mos.	48	None	—
14	52	M	H.As.HD	14 Mos.	60	Mercurydrin	Same
15	66	F	H.As.HD	3 Mos.	5	None	—
16	76	F	H.As.HD	2 Mos.	8	None	—
17	67	M	AsHD	8 Mos.	35	None	—
18	67	F	AsHD	15 Mos.	64	Mercurydrin	Same
19	65	M	AsHD	12 Mos.	52	Mercurydrin	Better
20	59	M	AsHD	15 Mos.	64	Mercurydrin	Same
21	45	F	AsHD	7 Mos.	31	Mercurydrin	Same
22	50	F	H.As.HD	12 Mos.	52	None	—
23	75	M	H.As.HD	6 Mos.	26	None	—
24	62	F	AsHD	9 Mos.	39	Mercurydrin	Same
25	63	M	H.As.HD	15 Mos.	64	Mercurydrin	Same
26	69	F	H.As.HD	12 Mos.	52	None	—
27	72	F	H.As.HD	14 Mos.	60	Mercurydrin	Same
28	60	F	H.As.HD	8 Mos.	35	None	—
29	51	M	AsHD	12 Mos.	52	Mercurydrin	Better
30	65	M	AsHD	4 Mos.	18	Mercurydrin	Same
31	56	M	H.As.HD	3 Mos.	13	Mercurydrin	Same
32	58	F	H.As.HD	2 Mos.	8	None	—
33	26	M	RHD	15 Mos.	64	Mercurydrin	Same
34	76	F	H.As.HD	15 Mos.	64	Mercurydrin	Same

1677

tients complained that it was of sufficient severity to be a major factor. However, in every case, continued administration resulted in less reaction of pain and tenderness until it was no longer a significant factor in therapy. In the other patients there was some pain with injection but it did not appear to be any more painful than any subcutaneous aqueous injection. No severe local reactions were encountered. In patient 3 there was an initial episode of nausea and weakness which had not been present with Mercurydrin. On repeated Thiomerin this symptom gradually subsided. Patient 8 reported severe pain and swelling with subcutaneous Thiomerin which was not present with intramuscular Thiomerin or Mercurydrin. However, after a few weeks the patient was able to receive subcutaneous Thiomerin without symptoms and with good diuresis. Patient 18 reported pain, moderately tender nodules at the site of injection and leg cramps. The leg cramps

were also present with Mercurydrin. The nodules eventually subsided and no new ones made their appearance in spite of continued injections. The leg cramps were relieved in this patient by prescribing a 5 gr. tablet of quinine sulfate to be taken in the evening of the day of injection. We have noted on five other patients, not reported in this series, that the leg cramps following mercurial diuretics could be controlled with the quinine in much the same manner that "night cramps" are so frequently controlled with quinine. Patient 27 also reported nodules which subsided without discontinuing the drug. It would seem that later batches of the drug were much more free of pain and nodule-producing tendency than the earlier preparation. Patient 34 demonstrated a rapid severe reaction consisting of pain, weakness, dizziness and cyanosis. The episode was self limited in about one-half hour and did not recur with repeated Thiomerin injections. It would seem from the

reports of the patients that the Thiomerin diuresis was more even and more prolonged than that with Mercuhydrin. The diuretic effect reached a maximum in about 12-18 hours and continued for about 48 hours. In four patients, Thiomerin was superior to Mercuhydrin. Its superiority was manifested by less leg cramping, more diuresis (as measured objectively) with subsequent clinical improvement, and less discomfort at the site of injection. In no instance did the diuretic effect of Thiomerin seem inferior to the effects of the other mercurial drug to which it was compared in any patient. There were no serious immediate or delayed toxic reactions with Thiomerin. We did not have any severe reactors to Mercuhydrin in our present series and so were unable to try a substitute mercurial—like Thiomerin. One of us recently treated a case who demonstrated a severe reaction to Mercuhydrin manifested by chills, fever, cyanosis and coma. Change over to Thiomerin resulted in excellent diureses without any reaction for six injections following which the reaction after Thiomerin was just as severe as that following Mercuhydrin. Another patient not included in this series had severe nausea and vomiting for several days after both Mercuhydrin and Thiomerin. These cases would indicate that Thiomerin would not be capable of simple substitution in every instance where there had been reaction to other mercurials; though it would appear in view of previous reports that for the patient who is sensitive or refractory to "other mercurials", Thiomerin may be "life saving".

Discussion Our clinical observations would indicate then that Thiomerin is certainly as effective a mercurial diuretic as any other now in use. All patients in this study failed to reveal any major intolerance or annoyance with Thiomerin and in twenty cases where comparison was possible it was apparently preferred by the patient because of ease of administration, less local pain, fewer leg cramps and generalized greater effectiveness. In no

instance was it found to be inferior.

The fact that it can be given subcutaneously is a major advantage and consideration. In several patients we attempted to revert back to the intramuscular Mercuhydrin for comparative observations and met with extreme patient resistance and reluctance. Where persuasion finally got the patient to agree to the intramuscular medication he usually reported more pain (local and leg cramps), less diuresis, and less subjective improvement and asked for the reinstitution of the subcutaneous Thiomerin.

It is apparent, of course, to everyone that this drug may eventually be self-administered by many patients—much like insulin. Consider the great saving of time and money to so many patients, especially those requiring frequent injections, once the physician has established the frequency of injection and the patient has mastered the simple technique of subcutaneous injection. Consider also how much less would be the patient's resistance to mercurial injections if the financial burden required by them was so markedly reduced. Many patients look upon the need for diuretics as a major event in their lives—as a sign of "the last stage" and as something to avoid as far as possible. Were we to train these people for self-administration or home administration by another member of the family, the problem would be greatly solved. We have several patients now (not included in this small series) who are receiving Thiomerin in this manner and it has been a considerable help to the patients financially and to the physicians medically in maintaining better control with less patient resistance. These patients have learned to accept Thiomerin in much the same manner as the diabetic accepts and receives insulin.

It should be noted that Thiomerin is supplied as a powder from the manufacturer because the solution is not stable. While the earlier batches of Thiomerin

used in these trials required refrigeration because of instability in solution, we have been informed by the manufacturers that the product as now produced is stable in solution at average room temperature for two months or more so that refrigeration is now only required in very rare instances.

In view of the facts that Thiomerin: (1) is at least as effective as the older mercurial diuretic drugs; (2) it can be given subcutaneously; (3) appears to be less toxic (from animal experiments); (4) has much greater patient acceptability; it appears to be the diuretic of first choice at the present time.

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How the Dairymen's League Regards Political Medicine

Recognizing that the United States enjoys the world's highest standards of health, medical care and facilities, this nation's largest cooperative milk marketing organization is on record against compulsory health insurance or any system

of political medicine designed for national bureaucratic control.

The Dairymen's League Cooperative Association has taken a positive stand on this question. The Dairymen's League is a farmer-owned, farmer-controlled cooperative milk marketing Association composed of 26,000 milk producing farmers, in New York, New Jersey, Pennsylvania, Vermont and Connecticut. Much of their milk is marketed in New York City, Newark, Poughkeepsie, Troy, Syracuse, Jamestown and other cities under the brand name "Dairylea."

The Dairymen's League annual meeting in Syracuse, October 12, adopted this resolution:

"**WHEREAS**, The United States has the highest standards of health, of medical care, and of scientific medical facilities of any country in the world, as a result of our system of free enterprise, and,

"**WHEREAS**, Compulsory Health Insurance, wherever tried, has caused a decline in national health and deterioration of medical standards and facilities, and,

"**WHEREAS**, Wherever the Government has assumed control of medical services, the result has been tremendous multiplication of costs over original estimates, extreme tax burdens and national deficits, and gradual extension of socialization into other activities of national life, now therefore be it

"**RESOLVED**, That the annual meeting of the Dairymen's League Cooperative Association Inc., hereby goes on record against any form of compulsory health insurance or any system of political medicine designed for national bureaucratic control;

"That a copy of this resolution be forwarded to each Senator from the states of this New York Milk Shed, and the Representatives from this district and that said Senators and Representatives be and are hereby respectfully requested to use every effort at their command to prevent the enactment of such legislation."

Congenital Hypertrophic Pyloric Stenosis

A Ten-Year Review

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Congenital hypertrophic pyloric stenosis remains the most common condition which requires surgery during the first few months of life. Recent advances in pre- and postoperative care, the administration of glucose, electrolytes, blood and plasma; the advent of chemotherapeutic and antibiotic agents; and the earlier recognition of the condition have all been factors in lowering the morbidity and mortality associated with the surgical treatment of this malady. The surgical technique has changed but little since the work of Fredet in 1908 and of Rammstedt in 1912.

Pathology The most important characteristic finding of the disease is the hypertrophy of the circular muscle of the pyloric end of the stomach with an actual increase in the number of smooth muscle fibers. Usually, there is an olive-sized mass which results from the hyperplasia and hypertrophy of the circular pyloric musculature. Commonly, this hyperplasia and hypertrophy have proceeded to such a degree that there is an actual decrease of the lumen of the stomach at this point. This mass is unyielding in character, so that the passage of food from the stomach into the duodenum is prevented or greatly diminished in amount.

Microscopically, the chief findings are as follows:

1. Edema of the mucosal layer.
2. Leukocytic infiltration of the mucosal

layer. There may be an increase in the number of rugal folds, and there is usually microscopic evidence of hypertrophy of the muscle.

Etiology While there have been many theories to explain this hypertrophy, none has been proven. Some have held that there may be early damage to the central nervous system, especially the autonomic nervous system, but this has not been substantiated at autopsy. Others believe that the hypertrophy and hyperplasia follow a pre-existing pyloric spasm. This seems strange, for it is most often found so early in life that spasm cannot have existed for a very long time. No racial factor has yet been proven to play a part in the disease. Infection does not seem to be important, for usually there are no foci of infection found. A follow-up study of pyloric stenosis cases and their families, with the frequent occurrence of peptic ulcer in this group, led Bendix and Mecheles to believe that possibly pyloric stenosis is due to an autonomic imbalance plus a local irritation during embryonic life.

Symptoms By far the most important symptom is the persistent and, often, projectile type of vomiting. It usually does not manifest itself until after the tenth day of life but may begin earlier.

From the Norwegian Hospital, Brooklyn, N. Y.
* Deceased

The vomitus does not contain bile, as the obstruction is found high in the alimentary tract above the duodenum.

The appetite is usually excellent or even increased above the normal. The child is constantly hungry and anxious to take feedings, as little of what he ingests remains in the gastro-intestinal tract.

The number and the bulk of the stools usually decrease markedly. At times there may be no stools produced for relatively long periods. Although constipation or obstipation is the rule, there may be a diarrhea from the passage of intestinal juices or repeated administration of cathartics. There is usually a concomitant loss of weight or retardation of weight gain which may vary from mild to severe, depending on the length of the disease and the completeness of the obstruction caused by the pyloric stenosis. The child is usually dehydrated from frequent bouts of vomiting, and there may be an alkalosis, if considerable amounts of hydrochloric acid have been lost from the stomach.

Physical Findings Inspection of the patient may show little of note except for signs of dehydration and malnutrition which will vary depending on the duration and the severity of the obstruction. The most important findings are in the upper abdomen, especially the right upper quadrant. There, one may find a palpable mass which is usually about the size of an olive. This mass is found in about 75-95 per cent of the cases, especially if the examination is done repeatedly during the course of the disease. It was palpated in 30 out of 39 cases in this series, a percentage of 77. Frequently, the tumor is felt only after a feeding of milk, water, or juice which relaxes the abdominal wall and makes the tumor more easily detectable. Examination with the baby in the prone position may facilitate palpation of the mass. Oftentimes only a distended stomach may be felt, especially if the examination is done shortly after a feeding.

Inspection frequently reveals visible peristaltic waves over the gastric region, moving from left to right.

Roentgenologic Methods and Findings Roentgenologic studies are generally conducted with the introduction of either air or barium into the stomach. In many instances the presence of a large stomach outline in an x-ray film taken three to four hours after feeding is suggestive of obstruction even before introduction of radio-opaque or radio-transparent material into the stomach. Exposures made hourly after a barium meal show almost complete emptying of a normal stomach in three hours with considerable retention in an obstructed stomach in that time. The use of the air technique is desirable, because the retention of air in an adynamic system cannot produce the mechanical blockage that is sometimes seen, when barium forms a hard mass which cannot be easily passed. Marked retention of air after two hours, during which the infant is maintained in a high Trendelenburg position and lying on his left side, is suggestive of organic obstruction.

Differential Diagnosis The most common condition from which pyloric stenosis must be distinguished is pylorospasm. In pylorospasm there is often vomiting for two or three days, and then a period of remission follows, only to be succeeded by other vomiting episodes. These infants are usually hypertonic, as examination of their extremities, neck, and trunk may reveal. This condition usually responds to antispasmodics such as atropine, phenobarbital, and demerol. Many babies operated late in the course of the disease for pyloric stenosis had been treated for long periods of time as pylorospastics.

Other types of congenital disorders must be considered, such as atresia or stenosis of the esophagus, duodenum, or intestinal tract. Usually these conditions produce early vomiting which is different in type,

amount, color, or force from that of pyloric stenosis. Various forms of malrotation of the gastro-intestinal tract may frequently simulate this condition.

Poor feeding regimens may produce vomiting which may be difficult to distinguish from that of pyloric stenosis. Adjusting the feeding regimen of the infant usually causes a cessation of the vomiting.

Vomiting due to intracranial injury, usually from birth trauma, is of a different type and, moreover, other evidences of neurologic dysfunction usually point to organic damage of the central nervous system.

Preoperative and Postoperative Care Once the diagnosis of pyloric stenosis has definitely been established by feeling the tumor, seeing the peristaltic waves, by radiographic evidence, or by combinations of these, the only reason for delaying the operation is to adjust the infant's electrolyte balance, correct the dehydration, abolish the alkalosis, increase the carbohydrate stores, supply the needed vitamins; in short, to make the operative procedure a safer one.

From two to five days may be employed to administer glucose, saline, Hartmann's solution, blood or plasma, depending upon the needs of the patient. Usually this is best accomplished by a combination of intravenous and subcutaneous fluids. Vitamins, especially ascorbic acid, seem to be a factor in the healing process postoperatively. Antispasmodics rarely are of any value, but phenobarbital may serve to quiet the infant so as to conserve its strength for the operative trauma to come. Feedings are usually continued in the hope that some of the food may be retained. These are usually thick cereal feedings.

Postoperatively the administration of intravenous fluids and subcutaneous fluids is usually necessary for several days, especially in the severely dehydrated cases. Transfusions are occasionally given,

if the operative loss was considerable, or if the hemoglobin was critical preoperatively, although this is best corrected before operation. A regimen of feedings, usually every three hours in increasing amounts, is begun shortly after operation.

The passage of a Levin tube the morning of the operation and the emptying of the stomach before anesthesia is strongly recommended. This largely obviates the hazards of vomiting due to anesthesia such as atelectasis and aspiration pneumonia, should vomitus enter the respiratory passages. This Levin tube is left in situ during the procedure, for, in our hands, it has served two additional purposes:

1. Once the pyloric muscle has been sectioned down to the mucosal layer, some air is introduced by syringe into the Levin tube, and if it passes readily into the duodenum, one can be sure that the muscle has been adequately severed, whereas, if the severance has been incomplete, there will be some ballooning of the stomach. This technique should prevent many cases of recurrence which are actually the result of incomplete sectioning of the muscle in the initial procedure.

2. Should an opening, accidentally, be made in the duodenum (which may be very small), the introduction of air will make this obvious. Should this untoward occurrence befall the operator, it is infinitely better that he know it, while the abdomen is still open, so that the perforation may be repaired, than that it should make itself known later as an irreparable postoperative catastrophe. We have followed this procedure in our last nine cases and feel that it has added a measure of security to the operator and safety to the patient.

Operative Procedures The technique of operation which we have followed is to make a two to three inch right rectus incision from the costal margin downward and to split the rectus muscle. The peritoneal cavity is opened, and, usually, the

antrum of the stomach presents itself. It is grasped and drawn out of the wound. The tumor is then identified, and the least vascular region is located. This is usually the superior, anterior surface. The mass is opened with a scalpel. It should open the serosal layer and part of the muscularis. The remainder of the procedure is carried out by using the blunt end of the knife handle and a mosquito clamp, which is opened and closed repeatedly, severing the remaining muscle fibers down to the submucosa without entering the stomach lumen. This is done for a considerable distance on the gastric side but not past the beginning of the duodenum, lest the latter be inadvertently opened.

Once the pyloric musculature has been severed, and the mucosa has been seen to pout through, the anesthetist is asked to introduce air into the in-dwelling Levin tube to assure the operator that the muscle has been sufficiently severed to eliminate the obstruction and that no perforation of the duodenum has been effected.

Hemostasis is usually not a problem, but if any persistent bleeding is encountered, the vessels may be ligated with #0000 plain catgut. The peritoneum is closed with plain or chromic #00 catgut and the rectus muscle is brought together with either silk or chromic catgut interrupted sutures. The skin is closed with interrupted silk sutures. A firm dressing is applied, using an Elastoplast type of material. Some men employ a gridiron incision, but we have found the right rectus approach to give adequate exposure, and it has been used in the vast majority of these cases.

Complications The most common postoperative complications of this procedure are wound dehiscence, wound infection, atelectasis, pneumonia, dehydration and alkalosis, vomiting, and pharyngitis. In this series wound dehiscence occurred three times and wound infection on two occasions. Atelectasis followed op-

eration in one case, and pneumonia occurred later in this child's course. Vomiting, while infrequent and rarely severe, may cause considerable concern.

Drip ether has been the anesthetic of choice most frequently in this series, for it affords much better relaxation than does local anesthesia, although it may slightly increase the frequency of postoperative respiratory complications, such as atelectasis, pneumonia, and pharyngitis. Several cases were operated under local infiltration with two per cent Novocain.

Results of Treatment In the ten-year period from 1939 to 1948 there have been 39 operations performed at the Norwegian Hospital in Brooklyn, New York, for this condition. Thirteen different surgeons accomplished the pylorotomies, seven of which were done by residents in Surgery during the last four years after establishment of the resident system. Thirty of the cases were male and nine female, which represents a percentage of 77 male and 23 female. Hence, three out of four infants operated were male, which is the ratio reported by several previous workers. There was but one death in this series which occurred in 1941, an 11-weeks-old female infant who was observed in the hospital for nine days, before surgery was undertaken. She developed atelectasis of the left lung postoperatively as well as severe alkalosis. In consideration of this fatal case, it seems significant that only two cases in this series were older at the time of admission to the hospital and that only three of 39 were observed for a longer time preoperatively in the hospital. These two facts seem to indicate the importance of early diagnosis and early operation. This does not mean that the operation should be undertaken as an emergency procedure, especially since the advances in fluid balance and electrolyte control make it possible to adjust the acid-base balance, the hemoconcentration, and the vascular status of the individual before laparotomy.

Twenty-seven of the 39 cases enjoyed uncomplicated postoperative courses with prompt food tolerance, early abatement of fever or total absence of fever, uninterrupted weight gain, and rapid, unmarred wound healing. The average hospital stay of these cases was 18 days, a little more than half the hospitalization necessary for the 12 complicated cases in the series.

Factors in Postoperative Complications Many similarities were noted between the complicated and the uncomplicated groups. The incidence of complications showed no sex differential, being 30 per cent among males and 33 per cent among females. The average age on admission was five weeks for both the complicated and the uncomplicated groups. The average birth weight was seven pounds eight ounces for one group and seven pounds seven ounces for the other group.

Certain salient dissimilarities between the two groups were evident which seem to be significant. The chief differences were in the length of the vomiting history prior to admission, the average weight on admission, and the length of the observation period in the hospital preceding operation.

The average weight on admission of complicated cases (six pounds thirteen ounces) was about one pound less than that of uncomplicated cases (seven pounds fourteen ounces). This marked weight difference assumes added significance when one considers that the average birth weights of the two groups were virtually the same and the average ages on admission to the hospital were the same. Starting from the same point, infants in whom complications developed had gained one pound less in their first five weeks of life than had infants of the uncomplicated group in the same amount of time. This would seem to indicate a more profound disturbance of nutritive intake and, in all probability, of tissue metabolism and reparative capacity in those cases who de-

veloped postoperative complications.

The history of vomiting was more than twice as long in those cases which developed complications as in those which did not, 3.3 weeks and 1.5 weeks respectively. Despite the prolonged vomiting and retarded weight gain of the complicated cases, the duration of preoperative observation in the hospital was 2.2 times as long in this group as it was for the less prolonged, better nourished cases that did not develop complications. In most instances this prolongation of observation was for diagnostic rather than preparative reasons.

TABLE 1
COMPARISON OF COMPLICATED AND UNCOMPLICATED CASES OF HYPERTROPHIC PYLORIC STENOSIS

	Uncomplicated	Complicated
Total	27 cases	12 cases
Sex	21 males; 6 females	9 males; 3 females
Incidence of complications	males—30% females—33%	
Average weight at birth	7 lbs. 7 oz.	7 lbs. 8 oz.
Average age on admission	5.1 weeks	5.3 weeks
Average weight on admission	7 lbs. 14 ozs.	6 lbs. 13 oz.
Average vomiting history	1.5 weeks	3.3 weeks
Average observation in hospital	4.0 days	8.8 days
Average hospitalization	18 days	34 days

Summary and Conclusions

1. A brief discussion of the etiology and pathology of hypertrophic pyloric stenosis is presented.
2. Diagnosis by signs, symptoms, and roentgenograms is discussed.
3. Preoperative, operative, and postoperative procedures are outlined.
4. A comparative study of complicated and uncomplicated cases among 39 infants during a ten-year period is presented.
5. It is strongly advised that a Levin tube be introduced into the stomach pre-

operatively and the stomach emptied before anesthesia is begun in order to prevent aspiration of stomach contents. It also serves to assure the operator that the pyloric muscle has been adequately severed, so as to prevent failure of complete release of the obstruction. Detection of duodenal perforation is assured.

The mortality rate in hypertrophic pyloric stenosis has been favorably affected by improved techniques of nutrition, maintenance of fluid and electrolyte balance, antibiotics, and chemotherapy. The incidence of complications is higher in prolonged cases than in those in whom the diagnosis is quickly made and the op-

erative correction is early undertaken. Complications occur most frequently among badly nourished infants whose weight gain has been seriously impeded.

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Appointments

Dr. Philip A. Lewin, professor of bone and joint surgery at Northwestern University Medical School, has been appointed chairman of the school's Department of Bone and Joint Surgery, President J. Roscoe Miller announced recently.

He will replace Dr. Paul Magnuson who now is professor emeritus in the Medical School.

President Miller also announced that Dr. Herbert Ratner, professor of dermatology at Northwestern has been appointed chairman of the Department of Dermatology.

The chairmanship was formerly held by Dr. Edward Oliver, who is now professor emeritus of dermatology.

Cortisone, ACTH Found Helpful in Treating Serious Skin Disease

Good results are reported by a group of doctors at Mount Sinai Hospital in New York who have used cortisone and ACTH to treat patients critically ill with acute disseminated lupus erythematosus, a serious disease beginning with a skin disorder and spreading to the heart, lungs, kidneys and other vital organs.

Writing in a recent issue of *Archives of Internal Medicine*, published by the American Medical Association, Drs. Louis J. Soffer, Marvin F. Levitt and George Baehr caution, however, that "although these agents are capable of inducing clinical remissions they do not affect a cure of the underlying disease process."

Of the 14 patients treated with the hormones, 11 responded to the extent that the acute evidence of the disease promptly subsided and the patient could move about more comfortably. However the diseased cells, the anemia, the abnormal kidney findings and other characteristics of the disease persisted.

The report continues:

"The treatment of acute disseminated lupus with cortisone or ACTH may be complicated by frequent untoward side effects. However, with careful clinical observation these effects may be minimized and corrected and therapy continued.

"The exacerbations [increase in severity] which follow attempts to discontinue therapy indicate that long-range or even permanent treatment may be necessary to control the disease."

Atopic Arthritis

Treatment By Dietary Supplementation With a Streptomyces-Derived "Animal Protein Factor" or Streptomyces-Derived Antibiotic, Terramycin. A Preliminary Report of Comparative Trials.

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Extensive trials of "animal protein factors," as supplementations to human diets, have been carried out for the past two years. These factors, now used as hog and poultry feed supplements,¹ are derived from residues of certain streptomyces species fermentations carried out for the commercial production of antibiotics. The active, growth-promoting substance was once thought to be identical with, or closely related to, B₁₂ as isolated from liver extract.² The residues do contain B₁₂, but their effects in humans are above and beyond those procured by the oral or parenteral administration of purified B₁₂ preparations. Considerable evidence is accumulating that one of the active "animal protein factors" present in antibiotic-producing streptomyces species residue is the residual antibiotic which it contains.³ In the case of the streptomyces species residue used almost exclusively by the writers, *S. griseus*, the usual producer of streptomycin, this antibiotic appears to have different properties than the latter.⁴

Concurrent with the purely nutritional studies with *S. griseus* residue, the material has been given to humans with a wide variety of diseases.^{5, 6} Rather gratifying results have been forthcoming, par-

ticularly in atopic conditions.⁷ In these instances as well, there was indirect evidence for the determinant role of some antibiotic in the material. Qualitatively similar results were attained by the feeding of any suppressor of the proteolytic bacterial flora of the intestinal tract. For whatever significance the observation might have, whenever remission occurred in an atopic disease during the feeding of *S. griseus* residue or a streptomyces-derived antibiotic, there was a change to a saccharolytic flora in the intestines. Institution and maintenance of such change by streptomyces-derived antibiotics, in order of decreasing effectiveness, could be the result of feeding terramycin, aureomycin, chloramphenicol or streptomycin. The same order appears to us to characterize the efficacy of these antibiotics in the therapeutic management of the human atopies*.

Rheumatoid arthritis fulfils the criteria of Barnard and Friedland⁸ for its designation as an atopic disease. For this rea-

* Human atopy is purposely stipulated since the dog may be an atopic reactor in the broad interpretation of Coca's⁹ concept. The order of effectiveness of antibiotics does not apply to their mixtures or combinations, or to the incorporation of penicillin (not a streptomyces-derived antibiotic) along with them.

son, and because some patients, not primarily arthritics, whose cases are incorporated in other studies, stated that their incidental (?) arthritic symptoms had abated under therapy with streptomycyces-derived materials, we have tabulated a comparative series of arthritic patients in whom the arthritis was the major, or sole, complaint.

Composition of Observational Series and Evaluation of Results

Private patients, many of them steadfast in their loyalty to the writers for years, either intelligent, or able to appraise their own arthritic status, made up the bulk of the series. All were literate, at least to a newspaper degree, and they took our word for the (then) unprocurability of ACTH and cortisone. While sedimentation rates, and even soft tissue radiographs, were used to follow the courses of the more rapid resolutions, our own evaluation of the results is tempered by compromise with the idea of the patient as to the response. Since the patient was living with the arthritis, he or she could tell us a great deal more about the influence of extraneous factors, mental attitudes, or even placebo control, than the most highly placed biometrician. No patient was placed in any "improvement" category of Table I unless it was his or her belief that the result was attributable to the dietary supplementation. The evaluation criterion was that constantly being used by any physician on any of his patients; we are perfectly satisfied with it and the conclusion has been that 61 per cent of patients taking 3.0 grams of *S. griseus* concentrate in milk, or 71 per cent of patients given 200 milligrams of terramycin in milk, daily, over a three-weeks period, have some degree of improvement in the signs and symptoms of rheumatoid arthritis.

From the Division of Hematology, the Medical Service of the Terrace Heights Hospital, Hollis, N. Y. The writers are indebted to Chas. Pfizer and Company, Brooklyn, N. Y., for generously providing the materials used in the investigation.

(Vol. 79, No. 2) FEBRUARY 1951

Table I

A Comparison of the Relative Effectiveness of *S. griseus* concentrate and of Terramycin as a Dietary Supplement for Treatment of Rheumatoid Arthritis

Patients Treated:	Categories of Response			
	A	B	C	D
with <i>S. griseus</i> residue	44	16	11	14
with terramycin	24	9	8	3
Category A—Marked	Improvement to Complete			
Remission				
Category B—Moderate Improvement				
Category C—Slight, Equivocal or No Improvement				
Category D—Exacerbation of Symptoms or Signs of Rheumatoid Arthritis During Treatment				

Incidental Observations In the last column of Table I, seven instances appear, in the cases of 68 patients treated, of exacerbation of rheumatoid symptoms during therapy. Other instances also developed with the final disposition of the cases in one of the other columns, because of rapid abatement of the exacerbative signs. In three instances, further treatment was refused before the expiration of the three-weeks trial period; in two instances in column D (both in the terramycin group), rapid improvement developed after discontinuance of the therapy. The contrary case is the rule and we now continue maintenance doses of either *S. griseus* concentrate or terramycin in our arthritic patients, many of whom have been kept symptom-free for months.

During the course of protracted *S. griseus* concentrate, or streptomycyces-derived antibiotic therapy, physiologic changes which mimic those produced by adrenocorticoid agents, may emerge. Some of the exacerbative reactions noted above are, in fact, due to an augmentation of local edema, because of sodium and water retention, at the site of inflammation. Except to stress the point that dietary supplementation with streptomycyces-derived antibiotics, though mimicking the effects of ACTH and cortisone, should not disparagingly be classified as "substitutes" for the latter, the matter of the unity of action among all anti-atopic agents will be left for a complete communication.

Summary The response of 68 atopic ("rheumatoid") arthritic reactors, to dietary supplementation with streptomyces-derived materials, is tabulated. It is believed that this treatment is of demonstrated value in the management of the arthritic patient.

Note—Similar results were reported in May, 1950, by Dr. E. E. Greenough of Sioux Falls, South Dakota, using chloromycetin (South Dakota Journal of Medicine and Pharmacy).

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Report New Method to Prevent Hemorrhage in Heart Surgery

A new method for the prevention or control of hemorrhages during heart surgery was reported recently by a New York surgeon associated with the New York Medical College, Flower and Fifth Avenue Hospitals.

The prevention of hemorrhage from the heart is one of the most important steps necessary for successful heart operation.

Writing in a recent issue of the *Journal of the American Medical Association*, Dr. Samuel A. Thompson told how he created an artificial leak-proof valve through which the surgeon could enter the heart without fear of hemorrhage.

This method was perfected through research on dogs and has been used on two human beings.

To create the valve, Dr. Thompson pressed into use a small cone-shaped pocket of the heart called the auricular

appendage. This hollow piece of tissue hangs "like a dog's ear" on the outside of the auricle, an upper cavity of the heart. It was ideal for Dr. Thompson's use in making a valve because the tissues of the appendage are thin and pliable.

To produce an actual working valve from this tissue, Dr. Thompson sewed two sets of stitches into the tissue, one near the tip and the other at the opposite end where it joins the auricle. The stitches were sewed in and out like purse strings on a woman's drawstring hand bag. By pulling or releasing the strings, the tube-like valve thus created could be opened or closed at either end. The final bit of preparation was to cut off the tip of the appendage to provide an opening.

During the operation the artificial valve works something like this:

As the operation begins, the upper valve at the top is open and the lower valve nearest the auricle is closed. The surgeon's finger, or instrument, is inserted into the tube-like valve through the top until it touches the lower valve. The first or top set of stitches are then closed tightly around the finger by drawing the purse strings.

The lower valve can then be opened without fear of hemorrhage because there is no outlet since the upper valve is tightly closed around the surgeon's finger.

When the lower valve is released the finger is free to enter the auricle or other parts of the heart. The thin and pliable tissues of the appendage permit freedom of movement.

Removal of the finger (or instrument) is accomplished by the reverse of this procedure. When the operation is finished, the stitches forming the inner valve are pulled tight and securely tied and the remainder of the appendage cut off.

In describing the advantages of this procedure, Dr. Thompson said that it "can be used without haste and repeatedly" in an operation requiring heart examination with the finger, visual examination or surgical intervention.

Gramoderm Therapy In Skin Diseases

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Thirty-two patients with diseases of the skin were treated with Gramoderm* with gratifying results. There are no reports in the literature on the use of this ointment which contains gramicidin, the *in vivo* active principle of the antibiotic tyrothricin.^{1, 2} Gramicidin is active against gram-positive bacteria.^{3, 4} Gramoderm contains 0.25 mg. of gramicidin in each gram of a polyethylene glycol type base which enhances its absorption through the skin. Bases of this type have found wide application in the field of dermatology since sensitization is relatively infrequent. The patients in this series found the cosmetic properties of this ointment desirable. It was neither sticky nor greasy.

The patients ranged in age from 5 months to 61 years. The conditions treated and the number in each group were as follows: impetigo 5, eczema 4, sycosis vulgaris 4, infectious eczematoid dermatitis 4, contact dermatitis 3, pyoderma 3, folliculitis 2, pruritus 2, and cellulitis, acne varioliformis, intertrigo, ringworm, and furuncle 1 each. Most of the lesions had been present for a few days to a few months before treatment with Gramoderm was initiated. Various medications had been tried without success except for slight improvement in a few cases.

The patients were instructed to apply Gramoderm and to massage it into the skin three or four times daily. No covering was used on the face and sometimes

none on the hands. Dressings usually were applied on other parts of the body.

One patient reported burning and redness of the skin after applying Gramoderm, but a patch test applied with this ointment was negative. There were no cases of contact dermatitis due to the ointment. The patients found the ointment soothing to their irritated skin.

Maximum benefit usually was obtained in two to four days after the first application of Gramoderm. This meant cure in superficial infective processes. In deeper processes, in some of the beard infections, for instance, great and rapid improvement occurred in a few days. However, it often was necessary to continue use of the ointment for one to three weeks to eradicate deeply embedded foci of infection.

The table shows the skin diseases treated, their duration before Gramoderm was applied, previous medication, and the results with Gramoderm.

Impetigo Excellent results were obtained in the 4 children and 1 adult with impetigo. The eruption had existed in the group for one to three weeks. Ammoniated mercury ointment, topical penicillin, hydrogen peroxide, and other classical remedies produced no change in 3 of the cases. The first effects of Gramoderm became apparent in a day or two in every instance. No new lesions developed after five days' treatment with the ointment in 4 of the 5 patients. In the fifth, with mild impetigo of the face,

*Gramoderm was supplied by Schering Corporation, Bloomfield, N. J.

Results with Gramoderm in the Treatment of Some Skin Diseases

Patients	Age	Duration of disease before use of Gramoderm	Diagnosis	Previous Treatment	Results with Gramoderm			
					Cure	Marked	Moderate	Slight, if any
1. F	6	2 wks.	Impetigo, left elbow and knee	Ammoniated mercury ointment; penicillin, topical	x			
2. F	2	2 1/3 wks.	Impetigo, body		x			
3. M	39	3 wks.	Impetigo, face and back	Various	x			
4. M	10	2 1/2 wks.	Impetigo, face	Ammoniated mercury ointment; peroxide	x			
5. F	13	1 wk.	Impetigo, mild, face		x			
6. F		2 mos.	Eczema, infected friction, right ear lobe	Burow's Solution		x		
7. F	7	1 wk.	Eczema, impetiginized, right ear	Ammoniated mercury ointment; Zephiran Solution 1:5000		x		
8. M	27	3/4 mos.	Eczema, impetiginized, arms, hands, ankles	Penicillin, topical; Tyrothricin Solution; Ammoniated mercury ointment; Furacin Ointment		x		
9. M	38	10 yrs.	Eczema, weeping, moderate, ears and hands	Various			x	
10. M	42	9 mos.	Sycosis vulgaris, beard				x	
11. M	46	1 mo.	Sycosis vulgaris, beard	Calgesic Ointment			x	
12. M	49	1 mo.	Sycosis vulgaris, beard				x	
13. M	25	1 1/2 mos.	Sycosis vulgaris, beard	Penicillin, topical and parenteral; Streptomycin Ointment	x			
14. F	7	2-3 mos.	Infectious eczematoid dermatitis, generalized				x	
15. F	26	3 wks.	Infectious eczematoid Lysol dermatitis, right ear, neck, left eyelid		x			
16. M	5 mos.	2 mos.	Infectious eczematoid dermatitis, scalp and both ears	Various ointments		x		
17. M	40	1 1/2 wks.	Infectious eczematoid dermatitis, left ear	Penicillin, parenteral			x	
18. F	61	3 mos.	Contact dermatitis, mild, with secondary infection, left leg	Menthol Ointment; Burow's Solution	x			
19. F	20	2 wks.	Contact dermatitis, with secondary infection, fingers			x		
20. M	36	3 wks.	Contact dermatitis with pustules, left hand and arm	Desenex Ointment; Whitfield's Ointment			x	
21. M	4	3 1/2 mos.	Pyoderma, face and ear	Penicillin, topical; Zephiran Solution	x			
22. F	24	1 1/2 mos.	Pyoderma, left arm		x			
23. F	6 mos.	1 mo.	Pyoderma, secondary to contact dermatitis on vascular nevus, ankle	Oil, vaseline		x		
24. M	24	2 1/2 mos.	Folliculitis, purulent, and perifolliculitis, right wrist	Penicillin, topical			x	
25. M	17	2-3 wks.	Folliculitis and perifolliculitis beard				x	
26. M	52	2 mos.	Pruritus, with secondary infection		x			
27. F	55	3 wks.	Pruritus, with secondary infection			x		
28. F	51	10 yrs.	Acne varioliformis, temporal and posterior auricular areas	Various	x			
29. M	34	1 wk.	Cellulitis, mild, under surface glans penis	Burow's Solution			x	
30. M	23	3 wks.	Intertrigo with pustules, left groin	Potassium permanganate; Desenex Ointment			x	
31. M	8	2 wks.	Ringworm impetiginized, two areas of face	Two ointments			x	
32. F	26	1 day	Furuncle, small, right chin	Sulfonamide cream; Tr. Merthiolate			x	

Gramoderm reduced the inflammation in three days and the lesions thereafter continued to subside.

Eczema In one adult with infected friction eczema of the right ear lobe of two months' duration, wet dressings of Burow's Solution failed to bring about improvement. In her, Gramoderm reduced the infection in the first day or two. The eczema, however, continued for some time before finally disappearing. Ammoniated mercury ointment and Zephiran solution 1:5000 were without effect in a 7-year-old girl with impetiginized eczema of the right ear. After six days' treatment with Gramoderm, only one tiny pustule remained in the ear canal. Impetiginized eczema of the hands, arms, and ankles of a 27-year-old male failed to respond appreciably to penicillin topically, Tyrothricin wet dressings, ammoniated mercury ointment, or Furacin ointment. Improvement continued for four weeks when Gramoderm was applied but complete cure was not obtained since new lesions appeared on the face and ears. The fourth patient in this group had moderate weeping eczema of the ears and hands of ten years' duration. His skin had been clear during four years of Army service. After three to five days' treatment with Gramoderm, the crusted lesions began to disappear.

Sycosis vulgaris Gramoderm caused rapid improvement of sycosis vulgaris of the bearded region of nine months' duration in a 42-year-old man. Neither Calgesic ointment nor Gramoderm benefited another similarly affected for one month. He discontinued Gramoderm after seven days. Twelve days' treatment with Gramoderm progressively cleared papules and pustules on the chin of a third man. Two new lesions appeared on his neck. Both local and parenteral administration of penicillin exacerbated the infection in the fourth patient. He improved for a time with an especially prepared streptomycin ointment but later developed contact der-

matitis which was proven by a patch test (*New York State J. Med.* (May 1, 1950)). This patient's treatment was then changed to Gramoderm. Within nine days only one small deep pustule remained. In two weeks, his face was cleared.

Infectious eczematoid dermatitis Generalized infectious eczematoid dermatitis had been present in a 7-year-old child for two to three months without treatment. Zephiran solution was used to remove crusts and exudate and Gramoderm applied. The moist areas began to heal in two days. A 26-year-old patient who had used lysol with no success on infectious eczematoid dermatitis of the right ear, neck, and left eyelid was similarly treated with Zephiran solution and Gramoderm. She required no further treatment after seven days. Gramoderm was effective in a 5-months-old infant with infectious eczematoid dermatitis of the scalp and both ears in whom various ointments had failed to eradicate the disease. The fourth patient did not improve when penicillin was administered parenterally. In him, Gramoderm "caused burning and redness of the skin" so that he was forced to discontinue its use after three days. No contact sensitivity could be demonstrated on patch test with this ointment.

Contact dermatitis Three cases of contact dermatitis with secondary infection were treated with Gramoderm. The ointment cleared the infections but did not alter the course of the contact dermatitis. In one patient where the condition had existed three months and in whom menthol ointment and Burow's solution had been tried, the inflammation began to subside in a day following the use of Gramoderm. The lesions had been present for two weeks in a second patient. In her case, Gramoderm also suppressed the infection. The third patient had contact dermatitis with pustules on the left hand and arm. Desenex and Whitfield's ointments had no effect. This patient's skin became clear of crusts and superficial

pustules four days after commencing the use of Gramoderm. However, a few infected deep follicles remained. These were cleared by the use of wet dressings to Burow's solution and Gramoderm.

Pyoderma Excellent results were obtained in the 3 cases of pyoderma. Two were cured in fourteen days. Topical penicillin and Zephiran solution had been without effect in one of these. The third case of pyoderma occurred secondary to contact dermatitis on a vascular nevus in a 6-months-old child. Oil and vaseline proved useless. Marked improvement followed the use of Gramoderm. Only two small ulcers remained after one week of treatment.

Folliculitis In one case of purulent folliculitis and perifolliculitis of the right wrist of two and one-half months' duration, topical penicillin was without effect. Only one small abscess, which had to be incised, remained after nine days' treatment with Gramoderm. In the second case, where the bearded region had been affected for two to three weeks, Gramoderm cleared the pustules in three to four days.

Pruritus Relief was obtained in two cases of pruritus of the ears with secondary infection. In one, the lesions dried over night. The ointment soothed the skin and the patient preferred it to any other treatment. In the other, Gramoderm caused the infection to subside in a few days.

Miscellaneous Acne varioliformis of the temporal and posterior auricular areas of ten years' duration in a 51-year-old woman was cleared by Gramoderm in one week. The first effects were noted in two or three days whereas previous attempts at therapy had failed. Gramoderm brought about rapid involution of the lesions in one case of cellulitis of the under surface of the glans penis, one of intertrigo of the left groin with pustules, one of impetiginized ringworm of two areas of the face, and one of early fu-

runcle of the chin. The furuncle was noted the day previous to therapy. The remaining lesions, however, had been present for one to three weeks and were unresponsive to Burow's solution, potassium permanganate solution, Desenex and other ointments, respectively.

Conclusions Gramoderm is a highly effective medication for the treatment of skin diseases due to susceptible organisms. In superficial infections, maximum benefit may be expected within a few days. When foci of infection are more deeply imbedded, treatment must be continued for a few weeks. Gramoderm is soothing to the skin and unlikely to cause untoward reactions.

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Safeguarding the Scientist Himself

The lives of thousands of scientists throughout the world are being safeguarded by the use of modern air-conditioning methods, the Refrigeration Equipment Manufacturers Association was recently informed by high government officials.

In one laboratory in Washington, D. C., eleven scientists died and a hundred others became seriously ill from infectious diseases before the benefits of air conditioning were discovered and put into practice.

One of the most elaborate air conditioning units in the world will soon be installed at the National Institutes of Health where a \$40,000,000 super-modern Clinical Center is now under construction.

Abscesses of The Finger

The material constituting this Department is prepared by Dr. Bernard J. Ficarra, Surgery Editor of Medical Times, and Dr. Edward Singer.

Epidermal or subepithelial abscess Trivial injuries such as the prick of a pin or a cut by the edge of a paper might deposit bacteria into the superficial layer of the skin and might form small abscesses. If the abscess is under the tough palmar epithelium it forms a blister-like swelling, which is very sensitive to the touch (Fig. 1).

Treatment consists of inserting the tip of a scalpel into the blister and letting the purulent fluid escape and permitting the blister to collapse. The superficial layer of the skin may be removed with scissors. The procedure can be performed without anesthesia (Fig. 2 a, b; fig. 3, 4, 5).



Fig. 1. Blister under palmar epithelium.



a. Blister opened with scalpel.

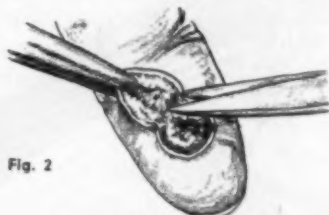


Fig. 2

b. Skin removed with scissors.



Fig. 3. Pus is sponged away from the floor of the blister.



Fig. 4. Pulp of finger is pressed to ascertain that no purulent material is in the deeper layers.



Fig. 5. Gauze saturated with a hot 4% boric acid solution is placed on the wound, then covered by waxed paper to prevent moisture evaporation, next cotton for warmth and finally a dry bandage.

Subdermal or collar-button type abscess This type of abscess occurs most frequently when the skin is thickened or calloused and the superficial infection being unable to spread in the tough skin breaks through with a small opening into the soft finger pulp. In this case the superficial part of the abscess lies between the layers of the skin and it is connected by a narrow sinus with the subdermal part of the abscess, which lies in the subcutaneous areolar tissue (Fig. 6). This condition causes great tenderness and soreness of the finger and interferes with its function but does not cause excruciating pain which prevents sleep.



Fig. 6

Immediate operation is the proper treatment, which is performed preferably under the general anesthesia of a short-acting inhalation anesthetic. Nerve block anesthesia should be the second choice (Fig. 7). To control the bleeding a tourniquet should be placed at the base of the finger (Fig. 8). The skin overlying the intradermal part of

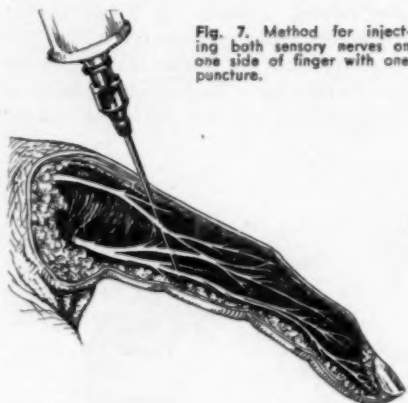


Fig. 7. Method for injecting both sensory nerves on one side of finger with one puncture.

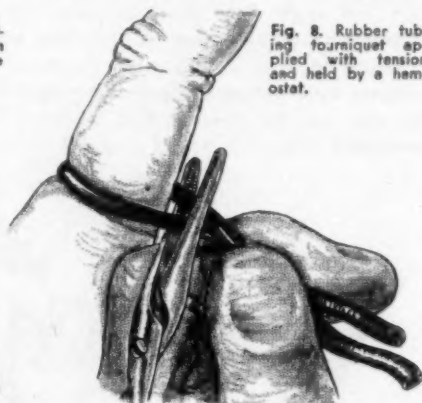


Fig. 8. Rubber tubing tourniquet applied with tension and held by a hemostat.

the abscess is removed as shown in figure 2. The pus is sponged away from the floor of the abscess as shown in figure 3 and a slight pressure exerted upon the pulp of the finger as shown in figure 4 will extrude pus which reveals the site of the sinus into which a pointed hemostat can be inserted. The hemostat is opened while it is with-

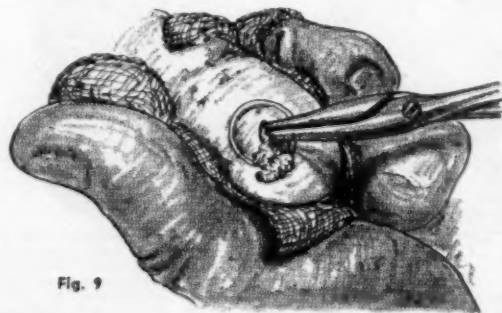


Fig. 9

drawn, thereby dilating the sinus, which permits the escape of the thick purulent material contained in the subdermal abscess (Fig. 9). A hot wet dressing is applied for 72 hours as shown in figure 5. Penicillin can be prescribed as systemic therapy. After removal of the wet dressing the finger is bandaged with a simple dressing until healing takes place.

Infection of the distal closed space (felon, Whitlow)

In the pulp of the distal two-thirds of the palmar side of the distal phalanx fibrous septa run vertically from the skin to the periosteum, separating the pulp distal to the epiphyseal line from that of the proximal part of the finger. In this closed space run the nerves and the nutritive arteries which supply the soft tissues and the diaphysis. The epiphysis is supplied by a branch of the digital artery before it enters the closed space. This peculiar arrangement of the tissues is responsible for the characteristic symptoms of the felon, which are 1. extreme pain caused by the inflammatory swelling, which interferes with the patient's sleep, 2. the throbbing pulsation of the finger tip and 3. the tenderness of the phalanx itself.

Tension from the swelling obstructs the blood supply, which causes extensive necrosis and death of the nerve, at which time the throbbing pain suddenly stops (Fig. 10). For a closed space infection

immediate and adequate incision is indicated. The operation is carried out under general anesthesia or nerve block anesthesia with a tourniquet. See figures 7 and 8. The condition of the

infection will govern the type of incision to be used for the opening of the abscess.

After the operation the wound is packed with petrolatum or sulfathiazole gauze and the finger is splinted. The dressing is changed the second or third day and the packing is removed. Boric acid soaks are applied every 3 hours until the necrotic tissue is separated. When healthy granulations start a firm bandage is applied.



Fig. 10. Anatomy of the felon.

HOCKEY STICK INCISION

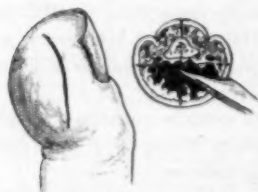


Fig. 11
The scalpel is inserted on the side of the abscess near the nail to the depth of the edge of the phalanx on the opposite side in order to sever all fibrous septa.



Fig. 12. The wound is sponged.



Fig. 13
a. Loose necrotic tissue is removed.
b. Petrolatum gauze drain is inserted.

THROUGH AND THROUGH INCISION

Correct

Incorrect

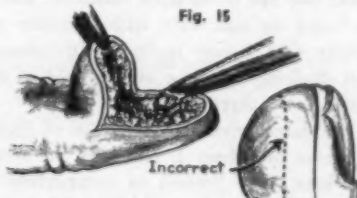


Fig. 14

Incisions are made at the radial and ulnar edges of the phalanx. These are connected by severing the connective tissue septa. A rubber dam is inserted into the wound.

HORSESHOE OR FISHMOUTH INCISION

Fig. 15



Recommended for advanced stages. It should be close to the nail to avoid painful scar formation at the tactile end. Flap turned back and loose necrotic tissue is removed.

Honey— Its Role in Medicine

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Early in the first century, Celsus wrote, in his *De Re Medicina*, that a physician should heal in a safe, quick and pleasing manner, and that this could best be accomplished with the use of honey.¹

The Papyrus Ebers, known also as the Therapeutic Papyrus of Thebes, written in 1552 B.C., praised the medicinal value of honey. The ancient scribes wrote of its extensive use internally as medicine and externally as surgical dressings for bruises and ulcers. Milk and honey was their choice for infant feeding and today we find by chemical analysis of vitamin and mineral content that this combination is an ideal one.²

The test tube and retort of the biochemist have set a breath-taking pace for the nutritional clinician and in our enthusiasm for keeping abreast with the newer concepts we are prone to forget some of the basic foods which have weathered the rigorous tests and exacting requirements of time. Honey, indeed, belongs in this class today. It has withstood the fire of modern chemical analysis,³ and we can state with scientific authority that honey occupies an honored and challenging place in the field of nutrition and therapeutics.

The latest chemical analysis of honey is shown on Chart I. Research on honey has been very limited in comparison to that in other fields, but the newer methods mean that more detailed analyses are now possible. It is an important addition

to our national dietary, because it is the only natural raw form of sugar available. All other sugars are devitalized, made so by the very process by which they are produced.

The attempt to learn whether honey contained vitamins began in 1918, with a number of investigators claiming that honey had no vitamin content. According to the analyses of three honeys done in Germany in 1924 by Scheunert, Schieblich and Schawnebeck, no vitamins were found to be present. But more recent analyses, notably those done in 1942 and 1943 at the University of Minnesota⁴ and the University of Wisconsin⁵ have proven this to be incorrect.

Honey does contain vitamins in highly variable amounts. These have been listed by Milum⁶ as follows:

Vitamin A (minute and insignificant amounts)

Vitamin B-complex (several involved in carbohydrate and amino acid metabolism)

B₁-Thiamine (antineuritic factor, anti-beriberi)

B₂-Riboflavin or vitamin G (growth and metabolism)

B₆-Pyridoxine (growth and amino acid metabolism)

Biotin (nutrition, some relation to dermatitis)

Folic acid (growth and nutrition)

Nicotinic acid (cure and prevention of pellagra)

Pantothenic acid (growth and metabolism)

Vitamin C-Ascorbic acid (antiscorbutic factor, cure and prevention of scurvy)

The amounts of vitamins are small but we must not lose sight of the fact that they are directly absorbed into the blood stream with the predigested sugars. This direct absorption of honey accounts for the remarkable energy⁷ response following its ingestion. There is no waste of vitamins; whatever vitamins the honey contains are completely utilized.

It behooves us, therefore, to consider seriously the use of honey as a natural source of vitamins, especially since it is becoming increasingly evident that with the advent of synthetic vitamins we are overdosing ourselves with vitamins in general, and untoward reactions of vitamin overdosage are being reported in the literature.

The earliest investigations of honey con-

cerned themselves with the enzymes—diastase, invertase, and catalase. It was only later that chemical analyses of foods indicated that small percentages of certain elements were necessary in human metabolism. Thus the trace elements in foods have assumed a new importance.

Care should be exercised in our selection of honey because the darker the honey color, the higher the percentage of mineral content. Very light or white honeys have few mineral trace elements⁸.

Various beekeeping localities throughout the world produce honeys with varying amounts of phosphorus, silica, calcium and manganese. Thirty-five samples, representative of the honey produced in the United States, were examined by Schuette and Huenink⁹, who concluded: "It has been found that there apparently exists a qualitative relationship between degree of pigmentation, as revealed by the present-day practice of color-grading this food,

Chart I

The Average Chemical Composition of American Honey

[Based on a sample of 500 milliliters (1.057 pints) of "average" extracted honey, at 68° F. (20° C.), total weight 708 grams (25.0 oz. avoirdupois)]

The Principal Components¹

	(Percent)	(Grams)
Water (natural moisture)	17.70	125
Levulose (d-fructose; fruit sugar)	40.50	287
Dextrose (d-glucose; grape sugar)	34.02	241
Sucrose (granulated, cane, or beet sugar)	1.90	13
Total Sugars	76.42	541
Dextrin (including gum-like substances)	1.51	11
Ash (mineral substances: potash, soda, lime, magnesium, chlorides, sulfates, phosphates, silica, iron, manganese, copper)	0.18	1
Total	95.81	678

¹ Representing the average of the analyses of 92 samples of honey, by Dr. Charles A. Browne (U.S. Bur. of Chemistry Bulletin 110, now out of print)

Substances Occurring in Relatively Small Quantities

Acids (Formic, Acetic, Malic, Citric, Succinic, Amino Acids, Total free acid, calculated as Formic acid 0.08%; 0.6 g.)		
Pollen grains; particles of beeswax		
Albuminoids (proteins)		
Maltose and less common sugars (sometimes Melezitose)		
Pigments (Carotin, Chlorophyll and Chlorophyll derivatives, Xanthophyll)		
Substances usually present, but for which the quantitative determination is difficult:		
Flavors and Aromatic substances (Terpenes, Aldehydes, Esters)		
Higher Alcohols (Mannitol, Dulcitol)		
Tannins		
Enzymes, including Invertase (converts sucrose to dextrose and levulose)		
Diastase (converts starch to maltose and possibly dextrose)		
Catalase (decomposes hydrogen peroxide)		
Inulase (converts inulin to levulose)		
The B-Vitamins and Vitamin C (Ascorbic acid), in small amounts.		
Total	4.19	30
Grand Total	100.00	708 Grams

United States Department of Agriculture, Production and Marketing Administration, Special Commodities Branch, Honey Section. March 15, 1946.

(Vol. 79, No. 2) FEBRUARY 1951

and mineral content. With the exception of the element calcium, the values found for the dark honeys were definitely greater than those noted in the case of the lighter colored varieties in respect to silica, phosphorus and magnesium."

Schuette and Triller¹⁰ in 1938 found that the sulfur and chlorine content of honey bore a direct relationship to the degree of color. There was, however, no general uniformity of occurrence of sulfur and chlorine through the samples utilized.

A generalized average composition* of honey, which does not necessarily fit any one individual type, is as follows: it is a predigested monosaccharide—a mixture of levulose (40.50%), dextrose (34.02%) and sucrose (1.90%), and it contains trace elements, vitamins, enzymes, pigments, etc.¹¹

The caloric value of honey is just twice that of sugar, spoonful for spoonful. I have found it useful in convalescence in debility, postoperative cases whose diets are restricted quantitatively, and in underweight patients.¹²

Certain cervical¹³ ulcerations, which are particularly stubborn in healing, respond favorably to local applications of honey. The simplest method is to place the patient in the Trendelenburg position. Swab the eroded areas with a gauze sponge saturated with honey. With an aseptic syringe introduce into the *cul de sac* three ounces of a dark honey**, such as a buckwheat-clover honey which, by analysis, has been found to have a pH around 3.77 and an acidity of 37.8 (ml. 0.1 N NaOH per 100 gm.) Introduce a vaginal tampon and instruct the patient to return in three days. After the removal of the tampon, it will be found that the raw eroded surfaces will have healed with a new epithelial growth.

Honey is a natural antiseptic. It will kill typhoid bacilli and other organisms

in a short time.¹⁵ Plasmolysis takes place slowly because the colloidal solution of honey has a low osmotic pressure. However, when honey is applied to tissues, as on cervical ulcerations, burns,¹⁴ etc the hygroscopic quality of the honey itself permits dilution by the tissue fluids so that the colloidal sugar passes into molecular solution and the osmotic pressure increases and plasmolysis becomes more active. The tissues heal rapidly, uninhibited by secondary infections and their toxic tissue reactions.

In cases of cracked, sore nipples of nursing mothers, where there is always danger of a secondary invader, honey can be very serviceable.¹⁶ It does not deter or jar the sensibilities of the nursing infant as some of our pharmaceutical ointments do. Between nursings, gauze saturated with honey should be placed over the nipples to protect the breasts from mastitis or abscess formation.

When Father Kneipp (1821-1897) used honey for stomach ulcers, he did so because he knew that honey was easy on the digestive processes, but he did not know why. This is due, as we know now, to the fact that honey is already in a predigested form in its natural raw state.

Honey should be used unpasteurized, as pasteurization destroys the enzymes, vitamins, etc.

Honey is invaluable in strict low salt diets¹⁷—as for example, in the rice diet—and in diseases involving acute and chronic kidney ailments. Some honeys have as little as 15 mgs. of the sodium per kilogram of honey, and therefore cause relatively no kidney irritation.

Conclusions

1. Honey contains essential vitamins and trace elements.
2. Honey should be used raw, unpasteurized.
3. Honey, being a predigested form of natural sugar, is quickly assimilated with little, if any, loss of the vitamins it contains.

*Honeys vary in composition with geographical distribution (floral source, soil chemistry, etc.)

**The amino acids combine with the sugars of honey to produce dark colored compounds.

Chart II

Vitamin Content of Territorial United States and Foreign honeys (per 100 gm.)							
Origin	Nectar Source	Thi- mine μg.	Ribo- flavin μg.	Ascor- bic acid Mg.	Pyri- doxine μg.	Panto- thenic acid μg.	Nico- tinic acid Mg.
U.S.A.							
California (1941)	star thistle	8.6	137	6.5	410	90	.11
California (1941)	orange	8.6	35	2.5	210	150	.16
California (1941)	sage	3.0	36	5.4	320	56	.04
California	star thistle	3.0	58	1.3	420	58	.24
Florida	tupelo	4.3	58	2.1	250	118	.44
Idaho	dandelion	6.4	87	2.5	267	192	.11
Long Island	mixed	6.5	46	2.0	240	155	.26
Montana	clover	3.3	77	3.2	416	141	.18
Montana	milkwort	9.1	..	2.9	250	..	.17
Minnesota	melon	7.1	36	2.6	400	156	.58
Minnesota	mixed	6.5	..	1.9	310	..	.11
New York (1936)	buckwheat	8.6	62	1.3	250	47	.13
Oregon	locust	4.3	35	..	260	103	.04
Oregon	alfalfa-sweet clover	4.3	36	1.3	430	175	.92
Oregon	fireweed	2.2	62	1.4	260	87	.04
Oregon	wild buckwheat	4.3	56	2.8	250	180	.16
Tennessee	poplar	6.5	..	1.2	240	..	.14
Tennessee	crimson clover	8.6	..	2.3	400	..	.56
Texas	cotton	2.1	58	..	350	103	.17
Texas	raffan	4.5	87	2.3	440	190	.23
Washington	clover and alfalfa	6.8	67	1.5	227	96	.24
Washington	black locust	7.4	63	1.4	233	100	.47
Washington	fireweed	8.2	81	4.1	397	56	.13
Foreign							
Azores	unknown	2.2	81	2.6	250	150	.33
Cuba	campanilla	2.2	58	1.3	420	56	.67
Czechia	lindee	9.1	62	2.5	240	56	.04
France	lavender	6.4	145	2.5	410	112	.82
Greece	unknown	8.6	47	2.8	460	58	.16
Guatemala	coffee plant	7.1	62	2.5	250	40	.94
Haiti	logwood	3.0	65	1.5	280	50	.15

From studies by M. H. Haydak, L. S. Palmer, M. C. Tanquary, and A. E. Vivino, University of Minnesota.

4. Cervical ulcerations are stimulated to rapid repair by honey applications.

A. By the intrinsic antiseptic action of honey.

B. By the hygroscopic action.

5. Honey used on cracked nipples heals and prevents secondary infections of nipples and breasts. Nursing infants like the taste of the honey.

6. Honeys, low in salt, are invaluable as sugar substitutes in "low salt diets."

Note—The various types of honey herein studied were furnished by the Ace Diagnostic Aids, Inc., Nesconset, N. Y.

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53 East 96th Street

"Federal Efficiency?"

LOUIS B. GLOYNE, M.D.
Kansas City, Kansas

"Efficiency is greater in the federal government (take for instance the post-office) than in private institutions." So stated a C.I.O. lecturer in a recent address before the Kansas Medical Society.

The remark caused an undertone chuckle in the audience but he was allowed to proceed freely without any interference with his speech on compulsory health insurance.

A recent experience of mine brought out the marked inefficiency of the postal department.

May 5, 1950, I purchased a porch roll-up shade from a well known mail order house. A canvas roll-up shade is something that in a good many particulars is like medical service in so far as it is seasonable and is used only for a short time. I ordered it sent to my house on Weatherby Lake. All the surrounding ground at Weatherby Lake is plotted by Block and Lot numbers. The plot is recorded. Tax notices are sent out by Lot and Block numbers. There is a real estate office in operation on the lake. I have a family who live in my place and have lived there eight months. I have often had an occasion to use the address:

Dr. L. B. Gloyne
% Blaine Nelson
Weatherby Lake, Block A Lot 34
Parkville, Missouri

Various commercial firms have made deliveries using that address. The American Railway Express recently made a delivery using that address.

As I had not received delivery of the shade after three weeks I made a complaint to the firm. They sent a letter to me, addressed the same as the shade was and suggested that I check with the Parkville postoffice. That letter was delivered without any apparent delay.

Parkville is located only about nine miles from Kansas City so I drove to the postoffice. I went to the general delivery window and made my complaint. The gentleman who came to the window took my letter from the company which was addressed to 'Block A Lot 34' and said, "Wait a minute."

He left the window, went back to another part of the room which was partitioned from the rest of the office. In a comparatively short time, he returned to me and said,

"I am quite sure I remember that package and that it was not delivered because 'Block A Lot 34 Weatherby Lake' did not mean a thing to them, and that Blaine Nelson in whose care the package was addressed had been assigned 'R 4 Box 153A Parkville, Missouri'. I am sure that after the package laid around here a few days it was sent back to the sender."

Of course the 'R 4 Box 153A' was based on the fact that the property location was 'Block A Lot 34'. There are eight substantial houses (\$15,000 to \$25,000 class) within a city block of my house.

He stamped the trace-up letter stating that the delivery had not been made. I returned to the firm, told my story and

June 20, 1950, over six weeks after I had made the purchase, I received a letter from the firm a part of which is quoted herewith,

"I have not been able to locate the shade which was returned by the Parkville, Missouri Postmaster."

It is now almost two months since I ordered the shade. My use for it this summer will soon be over, but I have no shade as yet!

When we consider that the American Express can still operate in competition with the Parcel-Post service we must realize that federal service is not very efficient. Within the last month the federal service has reduced the number of hours that the stamp window is to be open. The Express Company has announced 24-hour service at the union station across the street from the postoffice. The postoffice takes the cream of the crop, packages of certain restricted size and weight, and then receives enormous help from taxes to keep going.

Is it unreasonable to believe that the federal government would be just as inefficient with medical insurance?

William M. Boyle, Jr., Democratic National Committee Chairman, recently wrote a letter stating: "The Blue Shield plan proposes to provide voluntary medical care insurance but actually covers only a part of your doctor bills, usually surgery and often not all of that."

He contended the Democratic party's plan gave coverage of all medical requirements including doctor calls at the home, and medicine.

The federal government has never done that good with a much simpler problem, i.e., the delivery of packages of all sizes such as those which the express company handles.

Further explanation is needed of his promise to supply 'medicine'.

As a regimental surgeon responsible for the medical service of about 650 men one year before Pearl Harbor, I well

remember when we had a mild influenza epidemic. For two months we did not have a single drop of cough medicine in spite of all effort to get it. This was in peacetime. Many shortages that were present after the war was in operation were not being felt at that time.

At this same time one of my enlisted men wore a size 12 shoe. The army could not supply that size so he had to go to a civilian store and buy shoes and pay for them out of his own pocket.

For months after the National Guard was mobilized in 1940 it was necessary for any enlisted man who wore glasses to replace or repair them at his own expense. It was months after some of the newer medicines had come into use by civilian doctors before they were put on the approved list so that an army doctor could prescribe and have his prescription filled by the government.

There were a number of times that I wrote a prescription and gave it to the soldier so that he could take it to a civilian drugstore to get it filled.

Well do I remember talking to the Division Dermatologist (only skin specialist available for about 3,500 men). He said that he had never studied the treatment of skin diseases; and in his practice at home, because of the particular type of work that he was doing, he never saw any skin cases.

"But," he added, "there was no one around here that knew anything about the skin so they gave that assignment to me. I am having a lot of fun trying to learn about these cases." At that time he was using an old-fashioned treatment on poison ivy and getting poor results. There were a lot of severe poison ivy cases because the division was maneuvering in the woods. We in civilian practice had learned of a treatment which in almost all cases was giving results in a few days. But this preparation was not available to the army personnel. Soon after this experience I became a patient in a hospital

myself. I was in there for about six weeks. The medical officers were a fine group of intelligent doctors who were recently out of civilian practice.

The officer who cared for me was very efficient. Finally one day he said to me:

"I would like to use such and such a drug intravenously but the army does not supply it. If you will get some at the downtown drugstore I will gladly give it to you."

Of course I followed his suggestion.

I want to take my hat off to the medical officers in the armed forces. They are among the most intelligent doctors in the profession. But it must be remembered that often they are not the ones who pick out the medicines which are available for use.

If Mr. Boyle's health plan is similar to the one used in the army at certain times and especially with the thousands of National Guardsmen for the one year of peacetime before Pearl Harbor, then I can truthfully state from a patient's point of view, and from a physician's point of view, that the service was markedly inferior to that which the average American citizen enjoys in private life.
338 Brotherhood Building.



Medical School Notes

Promotions for eight staff members of the Northwestern University School of Medicine were announced recently by Dr. Richard H. Young, dean.

The promotions included three to full professorships: Dr. Thomas Cyrus Galloway to professor of otolaryngology, Dr. Harold Augustus Sofield to professor of bone and joint surgery and Dr. Joseph A. Wells to professor of pharmacology. In addition to being members of the Northwestern medical staff, Dr. Sofield is head of the Shriners Hospital for Crippled Children, and Dr. Galloway is on the staff of the Evanston Hospital.

The other five promotions were for Dr. Louis B. Newman to associate professor of physical medicine, Dr. Louis W. Sauer to associate professor of pediatrics, Dr. Eugene S. Talbot, Jr., to associate professor of medicine, Dr. John E. Kearns, Jr., to assistant professor of surgery and Dr. Theron Randolph to associate in medicine.

A committee of five has been appointed to select a new head for the Department of Anatomy in the College of Medicine of the University of Illinois, Dean Stanley W. Olson has announced.

Dr. Eric Oldberg will serve as chairman of the committee. Committee members are Dr. Stanley W. Armstrong, Jr., Dr. Robert E. Johnson of Urbana, Dr. Milan V. Novak, and Dr. C. C. Pfeiffer.

The present head of the Department of Anatomy, Dr. Otto F. Kampmeier, has requested that he be relieved from administrative duties on Sept. 1, 1951, in order to devote time to the completion of several books, one of which is an atlas of head and neck anatomy.

The Department of Criminology and Legal Medicine in the University of Illinois College of Medicine has been discontinued, Dean Stanley W. Olson has reported.

The action was taken following a recommendation by Dr. Sophie S. Sloman, head of the department, that the department be discontinued and its functions absorbed into other departments. Dean Olson concurred in the recommendation, pointing out that the department was not one which could be developed and expanded within the framework of the College of Medicine.

Dr. Olson said that the functions of the department can be adequately taken over by the new Department of Preventive Medicine, by the Department of Psychiatry, and by the proposed Department of Forensic Pathology.

EDITORIALS

The Fourth Annual Clinical Session of the American Medical Association

The Cleveland Clinical Session of the American Medical Association was a veritable treat for the general practitioner, who found spread before him all up-to-date information and demonstration bearing upon the health of the nation and the practice of medicine. It was at him that the Convention was especially aimed—proof of the importance of today's central figure in the scheme of medical things.

The wealth of scientific exhibits, lectures, demonstrations, telecasts and motion pictures was fantastic in its profusion and orderly presentation. The general practitioners attending the Session left it with postgraduate acquisitions of superlative degree. The educational wallop administered and absorbed was terrific in nature and degree.

As a spectacle of the real might of medicine one could feel reassured of its indispensable place and function in the nation's total structure, despite the sorry sniping of socialistic termites.

The House of Delegates operated with unprecedented certainty and unanimity, to be accounted for by reason of clarified objectives growing out of the profession's alerted understandings and purposes. We have developed sufficient antibodies by

reason of sickly pressures.

Likewise the Committees on Arrangement functioned with unwonted smoothness and effectiveness, so that nothing making for huge success was neglected, overlooked or omitted.

Our own impressions on the spot were overwhelming; we gained a renascent sense of medicine's great mission in the world—ever faithful and awesomely competent in a disturbing and menacing social order.

GP, Savior of Medicine

Not to be underestimated as a decisive factor making for the defeat of the socialization mongers has been the integration of the general practitioner. He is held in esteem by the general public and in respect by the government. This figure is the keystone of the arch of medicine. A profession unified by his absorption constitutes a strong citadel that can not be breached by the forces of reaction.

How short-sighted was the policy which for so long permitted the eclipse of the general practitioner. For it was his stupid eclipse which made the profession vulnerable. Thus is explained the strange attacks by politicians and propagandists—attacks otherwise unexplainable—upon decent men over years of darkness and conspiracy. The profession in such circumstances was not respected.

Prognosis

What good is it to have the food resources of the nation adequate if through inflation and exploitation the people's dollar possesses less and less purchasing power? In so far as the morale and stamina of the people depend upon good nutrition, to what can we look forward?

The 30-cent dollar which some economists are expecting will of course further augment the decline in the nation's health. When this is added to the psychosomatic factors that are straining people beyond endurance what place in the world will we ultimately hold? Would this not be the very process of disintegration and decay that our enemies envisage? Ensuing low standards will shatter our industrial potential.

The exhaustion of our young business executives is related in part to improper dietary habits (Portis, Zitman and Lawrence, *J. A. M. A.* December 2, 1950). Their psychosomatic difficulties are not due to inadequate food intake. But the entire situation in industry boils down largely to nutrition—the executives improperly fed, the working force in-

adequately fed largely because of the high cost of food.

Mack, of Pennsylvania State College, in a seven-year mass study, finds that three-fourths of this nation's children suffer from malnutrition in one form or another.

Add the nutritional factor to the fears and anxieties regarding the future which now plague everybody in a tense world and disaster is not inconceivable. How can we wage great wars, or even "police actions," successfully, in such weird circumstances?

Greatest of Paradoxes

Modern medicine has saved and prolonged millions of lives. In the ordinary course of nature weaklings would otherwise have been exterminated. We have effected salvage on a veritably colossal scale. But having brought all this about by scientific triumphs of fabulous order, behold! we seem to have ourselves made to order the Welfare State, which professes to confer Social Security upon our hordes of salvaged but precariously living citizenry. Is this progress, or a practical joke of the gods?



Hails "Tele-Clinic" as "Important Step" in Medical Education

Dr. Louis H. Bauer, secretary-general of the World Medical Association, has termed "Tele-Clinic" (trademark), medical film abstract on meetings of national and international significance to the profession, as an "important step in medical education" in a statement issued recently.

Produced by Wyeth Incorporated, Philadelphia pharmaceutical concern, as a service to the medical profession, "Tele-Clinic" is now being distributed throughout the country. Fifty-five prints of the film report will be made available to medi-

cal societies, hospital groups and nursing organizations.

The Fourth General Assembly of the World Medical Association held in New York this fall was the subject of the first "Tele-Clinic" film. The highlights of the session, including the four scientific papers presented to the delegates were filmed as a part of this first 35-minute, 16 mm. sound, black and white motion picture.

Dr. Bauer said that the World Medical Association was happy to cooperate with Wyeth Incorporated in producing the first issue of "Tele-Clinic."

NEUROLOGY

HAROLD R. MERWARTH, M.D., F.A.C.P.*

Pleocytosis and Meningeal Signs in Uremia

M. J. Madonick and associates (*Archives of Neurology and Psychiatry*, 64:431, Sept. 1950) report 62 cases of uremia in which cell counts of the spinal fluid were made. Patients with a history or symptoms of syphilis or of any other condition that might cause pleocytosis were excluded from this series. The blood urea values in these cases varied from 133 mg. to 486 mg. per 100 cc.; the spinal fluid urea content was determined in 29 cases; it varied from 140 mg. to 525 mg. per 100 cc.; the urea content of the spinal fluid was higher than that of the blood in 5 of these 29 cases. A pleocytosis of 10 or more white cells was found in the spinal fluid in 16 of the 62 cases, the highest count being 250 cells (lymphocytes). No definite correlation was found between the urea content of the cerebrospinal fluid and the degree of pleocytosis. In 30 of the 62 cases tests for the Kernig sign and nuchal rigidity were made; 10 patients showed one or both of these meningeal signs; 6 of these patients showed pleocytosis and 4 did not. While it has been suggested that the increased cell count in uremia is due to the presence of cerebral hemorrhage or thrombosis, which may not be evident clinically, only one of the patients in this series showed evidence of hemiplegia, and in the fatal cases that came to autopsy neither cerebral hemorrhage nor thrombosis was found.

COMMENT

The significance of this paper is to draw our attention again to concurrence of a picture of meningeal irritation in uremia, for unless this fact is appreciated, considerable effort and time could be expended in futile search for another cause. Despite such awareness, the possibility of other causes being responsible for the meningeal picture should not be dismissed lightly. Where the cell count is high, the presence of a high spinal fluid urea should aid in making the diagnosis.

H.R.M.

Cephalin-Cholesterol Flocculation and Thymol Turbidity Tests in Schizophrenia

J. E. Oltman and S. Friedman (*Archives of Neurology and Psychiatry*, 64:60, July 1950) report the use of the cephalin-cholesterol flocculation test as a test of liver function in 878 patients admitted to the Fairfield (Conn.) State Hospital during a period of approximately a year; this series included cases of catatonic schizophrenia, non-catatonic schizophrenia, and mental disease of non-schizophrenic types. The percentage of positive results with the test was not higher in the catatonic or schizophrenic groups than in those with other types of mental disease. In the male patients the percentage of positive tests was somewhat higher in the non-schizophrenic groups, possibly because of the relatively high incidence of alcoholism or other organic conditions that might affect hepatic function. As most of the patients in this series were in a "moderately early" stage of mental disease,

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the cephalin-cholesterol flocculation test was made on 202 schizophrenics, who were chronic cases with a long-term hospitalization and 100 control cases of other types of mental disease of corresponding duration. The percentage of positive tests was definitely higher in the schizophrenics than in the non-schizophrenics, especially in the male patients. As most of the tests were made in the summer months in this series, the tests were repeated in 36 of the 49 cases with positive results, in the following winter season, and in all these cases the results were negative with this second test. This reversal of the results of the cephalin-cholesterol flocculation test may be attributed to the photosensitivity of the test in the production of false positive results; to the influence of dietary or nutritional factors; or to the "greater flux in the physiologic stability" in schizophrenic patients. At the time of the first examination, the thymol turbidity test was done and gave negative results, indicating that there was no definite hepatic damage in these patients. The results reported, therefore, do not support the theory that hepatic damage is an etiologic factor in schizophrenia of the catatonic or non-catatonic type.

COMMENT

The analyses were made to determine the validity of a statement made by DEJONG that "hepatic damage may be a primary factor in the appearance of catatonic features in both human and animal subjects, and in the development of certain symptoms of non-catatonic schizophrenia." He expressed the opinion that "a pathologic metabolism may exert a toxic influence on the central nervous system, thereby accounting for manifest clinical symptoms."

H.R.M.

Sodium Amytal as a Causative Factor in Some Cases of Prolonged Insulin Coma

R. B. White and associates (*Journal of Nervous and Mental Diseases*, 112:245, Sept. 1950) report 3 cases in which mental patients developed prolonged coma while under insulin-shock therapy. These patients had been given sodium amytal for sedation, or for "interview purposes"

just before the development of the insulin shock. A similar case was reported by Kalichman in 1948, but a review of the literature indicates that the question of a possible "dangerous synergism" between insulin and sodium amytal has not been studied clinically. Some experimental work indicates, however, that the combined use of insulin and a barbiturate has a greater effect than the use of either alone. While the evidence is, as yet, not sufficient to indicate that the use of sodium amytal or other barbiturate does increase the danger of prolonged coma when combined with the use of insulin, it does warrant special observation and care of the patient when the two drugs are employed in combination.

COMMENT

The damage to the central nervous system from too prolonged coma in insulin shock therapy is so well known that repetition is hardly necessary. This report is of value in stressing the point of an undesired prolongation by a previously administered sedation. Caution and awareness are required to avoid catastrophes.

H.R.M.

Neurological Complications of Infectious Mononucleosis

J. L. Silversides and J. C. Richardson (*Canadian Medical Association Journal*, 63:138, Aug. 1950) report 3 cases of infectious mononucleosis with neurological complications. In the first case, major convulsions and stupor preceded the development of the characteristic general symptoms of the disease. In the second case, there were symptoms of severe myelitis at the onset of the disease, and after a period of rapid improvement, a neurological relapse occurred with repeated convulsions. In the third case a bilateral facial diplegia was the only neurological symptom. All these patients made a good clinical recovery; in the second case, the patient felt perfectly well three and a half months after the onset of the illness, but the electroencephalogram still showed a slight abnormality ("a few short runs of medium voltage 6 per sec. slow waves");

MEDICAL TIMES

in the third case, the facial diplegia was subsiding progressively, but recovery was not entirely complete in three to four weeks. In a fourth case in which the patient developed major convulsive seizures during an illness characterized by lymphadenopathy and splenomegaly with a white cell blood count of 4100 with 50 per cent lymphocytes, death occurred in status epilepticus. While the clinical findings indicated a diagnosis of infectious mononucleosis complicated by encephalitis, this diagnosis was not confirmed by the autopsy; the neuropathological findings in this case, the authors note, were "surprisingly slight." In a review of the literature, the authors find that the most common neurological complication of infectious mononucleosis is meningitis (28 cases reported in the literature); 19 cases of encephalitis, meningo-encephalitis, or encephalo-myelitis complicating infectious mononucleosis, including 2 of the authors' cases, have been reported. A wide variety of symptoms has been observed in these cases. Seven cases of acute infectious polyneuritis of the Guillain-Barré type and 5 cases of neuritis involving a single peripheral nerve have been reported as complicating infectious mononucleosis. The latter group does not include the authors' case of bilateral facial neuritis. In 8 cases the neurological complications were considered to be the cause of death; including 4 of the cases of acute infectious polyneuritis. In 20 of the cases in this series in which cell counts and protein determinations were made on the cerebrospinal fluid, the protein was generally elevated, while in 7 cases the cell count varied from 0 to 9 per c. mm.; this indicates that albumino-cytological dissociation is relatively frequent in neurological complications of infectious mononucleosis. The pressure of the spinal fluid was not often recorded in this series of cases; in 3 cases it was definitely elevated. A review of the autopsy findings in 22 cases of acute encephalitis and poly-

neuritis of different types in which the clinical course suggested a generalized virus infection, but the pathological findings were not characteristic of any known specific disease, showed no evidence suggestive of infectious mononucleosis. However, the authors' own experience and their review of the literature indicates that "a very small percentage" of sporadic cases of encephalitis may represent a neurological complication of infectious mononucleosis.

COMMENT

The differential diagnosis of conditions affecting the central nervous system is not simple when viruses of various types may be responsible. The reviewer was interested particularly in the case with facial diplegia found most commonly in the so-called Guillain-Barré cyto-albuminuria dissociation.

H.R.M.

The Depressed Patient: Management with the Aid of a New Medication

H. V. Grahn (*American Practitioner and Digest of Treatment*, 1:795, Aug. 1950) reports the treatment of 85 patients with depression or anxiety with a combination of d-amphetamine and amyl-ethyl barbituric acid. The preparation employed was supplied in two strengths; both contained 5 mg. d-amphetamine, one with $\frac{1}{2}$ grain amyl-ethyl barbituric acid and the other with $1\frac{1}{2}$ grains of this barbiturate. This combined medication has been employed because it has been found that the antidepressant action of each drug is increased, but both excessive sedation and excessive stimulation are prevented, thus having "a tranquillizing effect that seems to neutralize extremes of mood." In most of the patients treated the anxiety or depression was associated with some definitely diagnosed physical condition, such as the menopause or anemia, convalescence from various diseases, or post-operative fatigue. The majority of the cases treated were psychoneurotic with a comparatively mild type of depression, anxiety or phobias—a type of case frequently seen in general medical practice.

Excellent or satisfactory results were obtained in most of the cases of this type with relatively short periods of treatment. There were 9 cases in the series in which the condition "definitely bordered on the psychotic"; 4 of these patients, in whom the psychotic symptoms were of a mild type and short duration, showed some benefit; in the others in whom the psychotic symptoms were more severe and of longer duration there was little if any improvement. When psychiatric treatment

is indicated, no drug can be a satisfactory substitute; the preparation used in the cases reported should be employed rather to aid patients in emergencies or give them relief from depression or anxiety so that they can more effectively solve or face their problems before a true psychosis develops.

COMMENT

The reviewer has had no experience with this combination, but believes that it deserves clinical trial in ambulatory patients.

H.R.M.

PUBLIC HEALTH, INDUSTRIAL MEDICINE AND SOCIAL HYGIENE

EARLE G. BROWN, M.D.*

Pneumoconiosis After Exposure to Sulfur Dioxide Fumes and Dust from Coke Fires

L. Dunner and associates (*Lancet*, 2: 1214, Dec. 31, 1949) report that in x-ray examinations of the chest at a tuberculosis dispensary in Hull, England, 10 cases were found that showed an unusual type of pulmonary fibrosis with respiratory symptoms, but sputum repeatedly negative for tubercle bacilli both by smears and by culture. A study of the occupational history of these men showed that although they worked at different occupations, they were all exposed to sulfur dioxide fumes and dust from coke fires. These 10 men represent a small percentage of 50 to 60 such workers that had been examined at the dispensary since 1941. The chief clinical symptoms in those 10 cases were productive, cough, dyspnea on exertion and

irritation of the nose and throat and sometimes of the conjunctiva; the severity and duration of the symptoms did not show any constant relation to the extent of the x-ray abnormality; the same was true of the physical signs. The roentgenograms in these cases showed patchy fibrosis involving both lungs, but usually more marked in one; in one case, only one lung showed fibrosis, the other being emphysematous. In most cases, the mid and lower zones of the lungs showed modulation with occasional patchy consolidation. Areas of emphysema were present in most cases. Chemical analysis of a fraction of the dust showed silicious and iron compounds. The findings in these cases suggest that they may represent a new type of pneumoconiosis.

* Commissioner of Health, Nassau County, N. Y., Cons. Contagious Diseases, Meadowbrook Hospital, Hempstead, N. Y.

COMMENT

This study is of interest in that it points out the significance of securing a careful occupational history of patients suspected of having tuberculosis. This is especially important in cases from whose sputum tubercle bacilli cannot be isolated. Studies were made in 1928 by Collis and Gilchrist, and in 1934 by Hull, of the health of men with a history of prolonged coal dust exposure from trimming coal in the holds of ships. Some of the men had experienced long exposures and apparently dust concentrations were often heavy, but unfortunately, these are not indicated. Impurities, such as silica, were absent in any but insignificant amounts; some fibrosis was found, to be sure, but it was not disabling. It appears that carbon is relatively harmful and is easily removed from the lungs. Coal dust is only retained in large amounts in the lungs when there is a really high silica content.

E.G.B.

Cooperation in V. D. Control

C. A. Higgins, Chief of Police of Providence, R. I. (*Journal of Social Hygiene*, 36:61, February 1950) states that the police of that city cooperate with the local and state health authorities in the control of venereal disease. Because of the naval bases and military establishments located near Providence, they also cooperate with the Armed Forces Disciplinary Control Board for New England. This Control Board receives reports in regard to cases of venereal infection of military personnel acquired in the city of Providence, and gives a listing of places within the city where contact was made to the police department. The State Department of Health also furnishes a listing of hotels and liquor establishments where "pickups" that resulted in venereal disease have been made. All such places are investigated by the police, and the proprietors are called in to the Bureau of License Enforcement; a warning is given such proprietors, or in more serious cases, licenses may be suspended. Policewomen have been added to the patrol force of the Providence Police Department, and a Division of Women and Juveniles created. Policewomen, working in pairs and wearing civilian attire, inspect all licensed premises; they have made many arrests and have also appeared as witness against the proprietor of licensed premises for violations of law. When any woman is arrested for violation of the "morals code," a request is made in court to hold the offender in "substan-

tial" bail and continue the case until a complete physical examination can be made at the place of detention. In this way many cases of syphilis and gonorrhea have been found and the women have been treated either at the place of detention, or, if released on bail, by their own physician. When there was not sufficient evidence to convict the person arrested, she has been brought to a clinic maintained by the City of Providence, where she has been examined, and treated if venereal disease was found. As all this work is done in cooperation with the Department of Health and military Control Board, names are often not disclosed in order to protect sources of information.

COMMENT

The author has described a method of venereal disease control that is similar to that used in Upstate New York, except in the detail of approach. An added and highly commended feature of police work in Providence is that of the policewomen working in pairs and wearing civilian clothes, who inspect licensed premises, apprehend individuals and appear in court to prosecute violators.

The Attack Rates Among Immigrants to an Infected Human Population

J. Ipsen, Jr. (*American Journal of Public Health*, 40, 136, Feb. 1950.) presents a study of the attack rate of streptococcal infection among student nurses in a hospital for contagious diseases, as representing the effect of introducing susceptible immigrants to infected human populations under natural conditions. The number of patients with scarlet fever in the hospital was found to be the major factor in determining the attack rate of streptococcus infection among the student nurses. The highest attack rate occurred in December, which corresponded roughly to the peak of incidence of scarlet fever. The attack rates were highest when the nurse population showed an unusually large percentage of beginners, but as most new nurses entered the hospital at the time when there was the greatest risk of infection, the relationship of attack rate to service

age cannot be definitely established. A statistical study of the relation of attack rate of streptococcus infection to community dosage (incidence of scarlet fever) shows that this attack rate follows the same type of S-shaped curve as the curve relating mortality among groups of experimental animals to the dosage of the infective agent employed. As, in modern epidemiology, animal experimentation has proved of value as an aid to the understanding of the genesis and behavior of epidemics, it is of interest to note that this study of the occurrence of infection in a susceptible "immigrant" population under natural conditions tends to confirm the laboratory findings.

COMMENT

The author states that an immigrant, in the epidemiologic sense, is understood to be a person newly introduced in a community, presumably under conditions where diseases new to him are encountered, or where the community dosage is different from that to which he has been exposed (community dosage is used to designate the number of centers of infection). It appears possible, however, in some instances that the attack rate for the disease in question in the population from which some of the immigrants originate will be higher than in their present location. Thus immigrants often considered as susceptibles by virtue of their recent arrival in the community may, through previous exposure to the same infective agent in their former surroundings, enter the present environment immune to the disease under study.

E.G.B.

Nitroglycerin Reactions Among Pharmaceutical Workers

R. R. Bresler (*Industrial Medicine*, 18: 519, Dec. 1949) reports that workers in pharmaceutical plants, where nitroglycerin is manufactured on a large scale, are exposed to inhalation of dust and skin contact with nitroglycerin. With either method of exposure, the typical symptom of toxicity is an intense throbbing headache, beginning in the frontal region and extending back toward the occiput. In the more severe cases, there may be cramps with nausea and vomiting, dizziness and some psychic disturbances. With prolonged skin contact, eruptions of varying severity may occur, especially ulceration on the finger tips and below the nail. No fatal case of nitroglycerin poisoning due

to industrial exposure is known. While workers when first exposed to nitroglycerin usually show some symptoms, especially the headache, some develop a certain degree of immunity and the symptoms disappear. This immunity may be transient, however, so that symptoms may recur when the worker returns to work after a brief holiday. Symptoms are always much worse in warm weather. In the prevention of toxic reactions to nitroglycerin, it is important to plan longer production runs, so as to take advantage of the tolerance to the drug often acquired by workers; and to avoid the production of nitroglycerin in warm weather. Efficient exhaust ventilation should be provided, and protective equipment for all workers—such as gloves, masks, caps, etc. The workroom must be kept clean and free from unnecessary apparatus; and the workers instructed in good personal hygiene. Pre-employment examinations and careful selection of workers are of special importance; and workers exposed to nitroglycerin must be warned against the use of alcohol within twelve hours of working with the drug, as alcohol intensifies the symptoms of nitroglycerin poisoning. The treatment of severe nitroglycerin headache and associated symptoms is generally unsatisfactory. Oxygen inhalation for five minutes before going to work and for the same period after work has been found to decrease both the frequency and the severity of the headaches.

COMMENT

The author reports on the effects of nitroglycerin on pharmaceutical workers due to the exposure to dust and skin contact during the manufacture of the chemical. The symptoms described are similar to those of other nitrogen compounds and also resemble symptoms encountered with some chlorinated hydrocarbon compounds. The author points out the need of protective clothing, as well as good personal hygiene. He also mentions the use of masks which, of course, should be specific for the particular sizes of nitroglycerin encountered. A properly designed and operated local exhaust ventilation system at the source is necessary. The maximum allowable concentration for nitroglycerin in air is 0.5 p.p.m. or 4.6 milligrams per cubic liter which, of course, is a very low concentration. Sampling of the air in the vicinity of the workers should be done routinely, and a midget impinger should be used with the collecting medium propylene glycol at a sampling rate of 2.83 liters per minute.

E.G.B.

MEDICAL TIMES

MEDICAL BOOK NEWS

All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn 16, New York. When books are sent to us with requests for review, selections for that purpose are promptly made.

Pediatrician's Autobiography

From The Hills. An Autobiography of a Pediatrician. By John Zahorsky, M.D. St. Louis, C. V. Mosby Co., [c. 1949]. 8vo. 388 pages, illustrated. Cloth, \$4.00.

John Zahorsky, one of the immortals of Pediatrics, has written a clear, simple autobiography in the form of a narrative, punctuated by essays which describe in greater detail the most important influences that shaped the course of his life and career.

The title, *From The Hills*, serves two interpretations, namely, the translation into English of his family name "Zahorsky", and the production of this book at his beloved retreat for his old age—the farm in the Ozarks.

There are many lessons which a physician can learn from reading this quiet, interesting volume, but the most pointed lesson comes from the story of his wife. The author states that his wife made one complaint only—and that only once. "Any mother can call you and you respond at once, but if I want you to go somewhere you already have an engage-

ment at a medical society or a conference or you have a night call. What kind of life is this for me?" That her complaint was justified is revealed in the last sentences of John Zahorsky's chapter on The Family. "I was deeply grieved when she had to leave this earth before me. All our plans for a quiet old age together were rudely obliterated."

The life story is most interesting and instructive from the introduction in which Dr. Zahorsky estimates the extent of the sale of his autobiography—"Some of my former little patients now grown up may buy a copy, and some of my former medical students may think my memoirs worth reading"—to the last chapter which contains fragments of his musings as an old retired doctor on the habits and types of the weeds which invade his farm.

KENNETH G. JENNINGS

De Kruif on Doctors

Life Among The Doctors. By Paul de Kruif in collaboration with Rhea de Kruif. New York, Harcourt, Brace & Co., [c. 1949, The Author]. 8vo. 470 pages. Cloth, \$4.75.

This well-written book presents complete and easy to read biographical sketches of some of the leaders in present day medical research.

Despite the various phases of research covered in these sketches there is an un-

—Continued on following page

derlying theme in each of them which maintains the continuity of the work as a unit rather than as a collection of short stories. This common denominator is the difficulty encountered in obtaining funds for research.

Until the last chapter, where Mr. De Kruif suggests group practice and individual and group health insurance plans as the best method for combating socialized medicine and insuring good medicine to the patient, we would get the impression that he is an advocate of socialized medicine. Should anyone read most or part of this book without reading the last chapter, that is the erroneous conclusion that could be arrived at easily. In addition to preventing socialized medicine, group medicine would, in Mr. De Kruif's opinion, supply funds for research.

As a whole, *Life Among the Doctors* is interesting and informative reading.

JEROME WEISS

Head Injuries

Acute Injuries of the Head. Their Diagnosis, Treatment, Complications and Sequels. By G. F. Rowbotham. 3rd Edition. Baltimore, Williams & Wilkins Co., [1949]. 8vo. 480 pages, illustrated. Cloth, \$7.00.

The third edition of this book is almost twice as large as the first. One chapter on Osteomyelitis and another on Birth Injuries have been added. Most of the enlargement, however, comes from a greater consideration of the results of head injury—late sequelae, final condition, and the need for rehabilitation.

Some of the principles and concepts presented in this volume are open to considerable discussion, for example: the role of "shock", the significance of lumbar puncture, and the value of dehydration. On the other hand, much attention has been given to details which, though important, are frequently ignored as minor matters—such as the anatomy of the

scalp and skull, and the technical minutiae of surgical procedures.

In general, this book is of greatest value to the trainee who requires a broad approach to the problem of head injury. It is generously illustrated.

EVERETT W. CORRADINI

Medical Biophysics

Applied Biophysics. Survey of Physical Methods Used in Medicine. A Symposium. Edited by Dr. N. Howard-Jones. Brooklyn, Chemical Pub. Co., [c. 1949]. 12mo. 293 pages, illustrated. Cloth, \$6.75.

Of necessity the radiologist, the radiation biologist and the physiologist as well as the biochemist come into almost continuous contact with the science of physics, but every physician is frequently called on to make use of the elemental principles of physics in his treatment and diagnosis of disease.

Some of the usual applications of physics to medicine would include a study of the effects of stress and trauma to produce skeletal fracture, the study of leverage in the action of muscles. The science of optics has many applications to medicine. The newer science of electronics is rapidly expanding. The study of sound and modern radio frequency techniques all have medical application. The physics of radiology with its application to x-ray and radium radiation as well as the newer radioactive vehicles, the radio-isotopes, are all being rapidly adopted by medical science.

These subjects as well as the all important subject of "Protective Methods in Radiology" are all titles for discussion in one or more of these theses. This booklet is recommended for reading by the surgeon, ophthalmologist, orthopedist and the internist as well as the radiologist.

WILLIAM E. HOWES

—Continued on page 122

MEDICAL TIMES

**Acne patients
see rapid improvement
with Acnomel**



Teen-age acne patients get back
"in the swing" when you R Acnomel, because . . .

1. Acnomel's cosmetic effectiveness
hides the lesions. Your patient looks her
best by day or night.
2. Acnomel's therapeutic effectiveness
brings rapid improvement.

In the *Journal of the A.M.A.* (142:715), Dexter reports
on Acnomel's cosmetic and therapeutic effectiveness:
Flesh-tinted Acnomel "matched the average skin, enabled
the patient to cover the lesions and thus
prevented embarrassment" and psychological trauma.

"Acne was either arrested or decidedly improved in all cases."

FORMULA: Resorcinol, 2%; and sulfur, 8%; in a stable,
grease-free, flesh-tinted vehicle.

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Acnomel

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a significant advance, clinical and cosmetic, in acne therapy

Leprosy

Who Walk Alone. By Perry Burgess. New York, Henry Holt, [c. 1940]. 8vo. 308 pages, illustrated.

It is hard to believe that this story of the life of Ned Langford, a Spanish War veteran who contracted leprosy during his overseas service in the Philippine Islands, is not a novel. But Mr. Burgess vouches for the fact that all the intense interplay of despair, hope, love, kindness, constructive effort toward improvement of his fellow lepers in the Cullion Community, and finally yearning for his boyhood home in the U.S.A., constitutes a true life story with only the names of the actors changed to prevent recognition. The book was written for the purpose of familiarizing people with the problems of the leper, of reducing the fear of the public for leprosy, and of inciting the reader to help the fund raising efforts of the Leonard Wood Memorial Foundation which gives grants in aid to leprosaria all over the world.

It has been a privilege to review this thrillingly pathetic story first, because the reviewer thoroughly enjoyed the story; secondly, because he had the happiness to have met General Leonard Wood and was immediately inspired by his sterling character in the same fashion as Ned Langford had been, and thirdly, because over the years he has helped to supervise the care of many unfortunate victims of leprosy at Kingston Avenue Hospital, Brooklyn, where the cases developing open lesions in New York City are treated and held for transportation to the National Leprosarium at Carville, Louisiana.

At no time during this soul-stirring portrayal is there mention of the fund or the purpose for which the book was written; the story speaks for itself. The history of the fund, of the author who has given over his royalties to the Foundation, and the appeal, appear only in an

addendum.

The story is excellently done,—the appeal is most worthy. There is one incident which gravely transgresses the laws of morality, and while the act cannot be condoned, we may follow the Christian code—hate the sin but love the sinners.

KENNETH G. JENNINGS

Radium Therapy

Radium Therapy. Its Physical Aspects. By C. W. Wilson, M.Sc. London, Chapman & Hall (Washington, D. C., Sherwood Pr.), [1945]. 8vo. 224 pages, illustrated. Cloth, \$6.00.

This small volume deals with the physical aspects of radium therapy. It is prepared for all types of workers in radiotherapy as well as for physicists.

The introductory chapter consists of a precise exposition of the atom and of corpuscular and electromagnetic waves. This is followed by a description of the decay of radioactive radon, methods of extraction, filtration of radon or radium sources, measurement, as well as safety methods.

Chapters two, three and four take up the interaction of high voltage radiation and matter as well as gamma ray dosimetry.

The following three chapters consist of the practical methods of radium application, include surface applicators, cavity and interstitial therapy as well as telerradium therapy. This follows much of Paterson's work at the Holt Radium Institute and the author does not fail to give Paterson as his source.

The final chapter on protection contains valuable material.

This book is recommended as a valuable reference book to all physicians who include radium therapy within their field of activity.

WILLIAM E. HOWES

—Continued on page 124

MEDICAL TIMES

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Gynecology

A Textbook of Gynecology. By Arthur Hale Curtis, M.D. & John William Huffman, M.D. 6th Edition. Illustrations chiefly by Tom Jones. Philadelphia, W. B. Saunders Co., [c. 1950]. 4to. 799 pages, illustrated. Cloth, \$10.00.

This good standard textbook is brought as nearly up to date as is possible in this time of rapidly changing methods of diagnosis and treatment. It deals rather thoroughly with embryology, anatomy, physiology, diagnosis and treatment with both conventional and colored photographs and photomicrographs. It does not contain extensive or widely diversified operative procedures but those given are well chosen and clearly illustrated.

J. T. WALLACE

Christopher's Surgery

A Textbook of Surgery. By American Authors. Edited by Frederick Christopher, M.D. 5th Edition. Philadelphia, W. B. Saunders Co., [c. 1949]. 4to. 1,550 pages, illustrated. Cloth, \$13.00.

It would, of course, be impossible to review this book in any detailed manner. It is a textbook which is primarily written for the use of students in medicine. The editor has realized that by having a great many specialists collaborate, the end result is more desirable and efficient. The book properly stresses etiology of disease, the pathological processes and diagnosis. Concerning treatment, only the proved and tried methods are included in the text. There has been some rearrangement of the contents in the book. The sections on Shock, Acidosis, and Alkalosis, and Water and Electrolyte Balance have been shifted from the latter to the earlier part of the book. The sections on the Motor Skeletal System have been grouped together.

A great number of new sections are found in this fifth edition. The book is recommended to those who desire a com-

prehensive but concise and brief description of surgical procedures.

MERRILL N. FOOTE

Blood Atlas

An Atlas of the Blood and Bone Marrow. By R. Philip Custer, M.D. Philadelphia, W. B. Saunders Co., [c. 1949]. 4to. 321 pages, illustrated. Cloth, \$15.00.

Several important departures from precedent help to make this an outstanding work on Blood and Bone Marrow. Whereas previous monographs and atlases on the subject have been almost exclusively illustrated by smears of blood and bone marrow, Custer has given photomicrographs of sectioned marrow the same prominence as those of smears. The pathologist will especially welcome this innovation. Unlike most atlases, this book treats of the pathology of the bone marrow in general, not only of its abnormalities in so-called diseases of the blood. An excellent section is devoted to the marrow lesions in parasitic diseases. The book is considerably more than an atlas: clinical notes are frequently incorporated in the legends accompanying the pictures. The author has "summarized significant clinical features and called attention to adjunct laboratory tests, so that unwarranted reliance will not be placed on the blood and marrow pictures alone."

The recently standardized nomenclature is used, except that related to the erythrocytic series.

With few exceptions, illustrations are from photomicrographs. Many of these are full-page size and magnified as much as 2280 times. Although one might wish that more of them were in color, they are of highest quality. Custer has produced a superb volume that will be of great value to pathologists, hematologists and also to clinicians in many other branches of medicine.

J. ARNOLD DE VEER

MEDICAL TIMES



AT THE FIRST SNEEZE

That's the sign for SYNTHENATE TARTRATE therapy
...for, in the early phase of coryza, this simple treatment brings gratifying,
often dramatic relief.

In 65% of cases complete remission of symptoms occurs within fifteen minutes
after injection of 1 cc of SYNTHENATE TARTRATE-Breon, when adminis-
tered within twenty-four hours of the first sign of a cold!

Injection is simple...relatively nontoxic...prolonged in effect. SYNTHENATE
TARTRATE-Breon increases cardiac efficiency and frequently slows the pulse
rate; thus it is effective without appreciably increasing the work of the heart.
It does not cause cardiac arrhythmias, does not stimulate the central nervous
system, does not produce signs of anxiety.

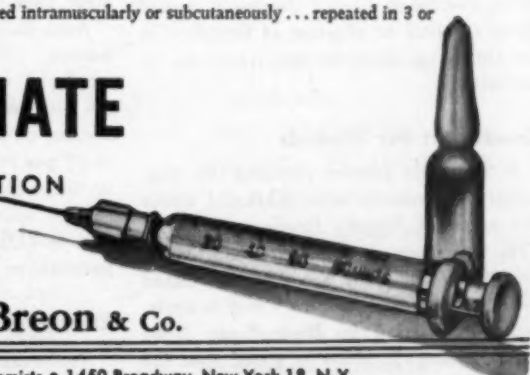
DOSAGE: 1 cc injected intramuscularly or subcutaneously...repeated in 3 or
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MODERN THERAPEUTICS

New Antihistamine

A new antihistaminic compound, a methylated derivative of Benadryl, has been named Toladryl. According to Mc Gavack *et al*, writing in *The J. Allergy* (21:353 (1950)), the new compound is 1 1/2 to 2 times as potent as Benadryl, weight for weight. The therapeutically effective dose of Toladryl varied from a unit dose of 25 mg. in migraine to a daily dose of 300 mg. in acute urticaria. The usual maintenance dose was 50 to 200 mg. a day.

The incidence of side reactions averaged 15.8 per cent, although no adverse effects were noted when the daily dose was kept below 100 mg. The reactions encountered resembled those caused by Benadryl but were rarely as pronounced and occurred much less often.

The belief that allergic reactions do not only arise as a result of the release of histamine is given a little further evidence in that although Toladryl is about twice as potent weight for weight as Benadryl in the control of allergic disease it is only about one-half as effective as Benadryl in its ability to suppress skin reactions to histamine.

Deodorant for Wounds

A deodorant powder containing two quaternary ammonium salts, marketed under the name of Vogel's Deodorant Powder FF6, was claimed to be very effective in controlling the odor so often associated with certain types of ulcers and wounds. A report carried in *Drug Trade News* (25:35 (Aug. 7, 1950)), stated that the preparation was used as a spray directly on the wound or as a moistening agent

on the dressing in 0.025 to 0.05 per cent solutions. No signs of irritation or toxicity were noted when used in the concentrations found to be effective.

Treatment of Rheumatic Conditions with Sodium Salicylate and Para-aminobenzoic Acid

The use of a combination of para-aminobenzoic acid and sodium salicylate (Pabalate) produced significantly greater relief of pain and stiffness in 125 patients with a variety of rheumatic conditions while employing relatively lower doses than with sodium salicylate alone. It was thought that the increase in efficacy was due to the attainment of higher salicylate blood levels due to the retarding effect of the para-aminosalicylic acid on the urinary excretion of the salicylate and upon the synergistic antirheumatic action of the combination.

The combination was found to give longer pain relief than sodium salicylate alone and to be well tolerated and free from toxicity or adverse reactions. However, a 3 to 4 hour delay between ingestion and the therapeutic response became evident. This inadequacy was overcome by administering a delayed action sodium salicylate tablet at bed time or by taking a dose of plain sodium salicylate immediately upon arising in the morning.

According to Smith in *The Journal-Lancet* (70(May, 1950)) the dosage employed was 2 tablets, each containing 0.3 Gm. each of sodium salicylate and sodium para-aminobenzoate, to give relief to 92 per cent of the patients comparable to the relief obtained with 0.6 Gm. of sodium salicylate in 68 per cent and 1.0 Gm. in 21.6 per cent of another group of patients.

Effectiveness of Anticoagulants

Tromexan and Danilone, two new anticoagulants of rapid onset and disappear-

—Continued on page 58a

MEDICAL TIMES



new clinical studies¹

dainty, convenient
single-dose disposable
applicators

westhiazole vaginal



send for samples

and reprint¹
by Stein, I. F. and
Kaye, B. M.: *Su. Clin.*
North Am. 30:259, 1950.

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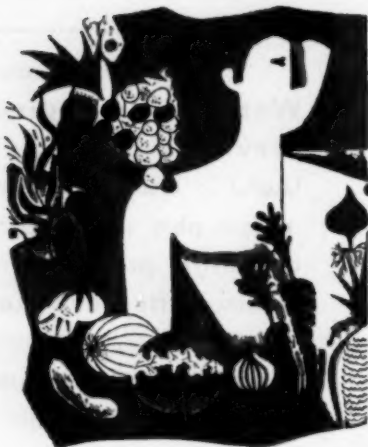
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cervicitis and vaginitis.
Useful in clearing up cervical
mucous plug or mucopurulent
discharge; promotes "rapid
healing" after cauterization;
"glatifying results" when ap-
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tomies and plastic repair.

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WESTHIAZOLE VAGINAL:
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10% SULFATHIAZOLE,
4% UREA, 3% LACTIC ACID,
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polyethylene glycol base.

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vaginal pH, encourages growth
of friendly Doderlein
bacilli, combats secondary
as well as primary infection,
speeds healing.**

When the diet is deficient in vitamins

THERAGRAN offers your patients the clinically proved, truly therapeutic "practical" vitamin formula* recommended by Jolliffe. (Jolliffe, Tisdall & Cannon: Clinical Nutrition, New York, Hoeber, 1950, p.634.)



THERAGRAN supplies all of the vitamins indicated in mixed vitamin therapy in the carefully balanced, high dosages needed for fast recovery from mixed deficiencies.

Each Theragran Capsule contains:

Vitamin A	25,000 U.S.P. Units
Vitamin D	1,000 U.S.P. Units
Thiamine Hydrochloride	10 mg.
Riboflavin	5 mg.
Niacinamide	150 mg.
Ascorbic Acid	150 mg.

Bottles of 30, 100 and 1000

*Thiamine content raised to 10 mg.

When you want truly therapeutic dosages specify...

THERAGRAN

for therapy...

and correct the patient's diet

SQUIBB

MODERN THERAPEUTICS

—Continued from page 56a

ance of prothrombin responses, make the control of anticoagulant therapy more difficult than with longer acting drugs such as dicumarol, according to Shapiro and Weiner in a recent release. Since these drugs are excreted so rapidly there is considerable variation in the blood levels obtained, which makes proper dosage difficult and which apparently makes hemorrhage more difficult to control.

In the use of anticoagulants it is dangerous and difficult to attempt to predict a daily dose which will be both safe and effective over a prolonged period of time. A strict control of dosage with frequent and accurate prothrombin time determinations must be carried out.

The authors discussed the use of dicumarol in considerable detail. The predominant characteristic seems to be that there is wide variation in the absorption, excretion, plasma concentrations, metabolism, and prothrombin times from individual to individual. Water soluble vitamin K preparations are effective in reducing the prothrombin time prolonged by dicumarol but they do not influence the rate at which the dicumarol disappears from the plasma. Although it is desirable to find a safer anticoagulant than dicumarol, at the present time the drugs of proved value and effectiveness are safer to use.

The Failure of Antihistaminics in the Treatment of the Common Cold

During an observation period of 2 months on 253 persons there were 376 respiratory illnesses in 203 of the persons observed. Of the illnesses 87 were treated with various antihistamine drugs and 289 were not treated. The illnesses

MEDICAL TIMES

were evaluated clinically and 75 per cent were diagnosed as the common cold and the rest were various respiratory illnesses. Feller *et al* stated in *New England J. Med.* [242:737 (1950)] that there was no significant difference in severity and duration between treated and untreated illnesses regardless of whether the dosage was adequate or not. Adequate dosage was regarded as 3 or more recommended doses begun on the same day as the onset of symptoms. Inadequate dosage was considered to be less than 3 recommended doses started on the second or later day after the onset of symptoms.

A group of 37 volunteers were inoculated with the nasal secretion from a donor with a typical, severe common cold. Of this group 9 were given 50 mg. Pyrrolazote 4 times a day for 5 days starting 2 hours before inoculation. Ten were given 50 mg. Neohetramine 4 times a day for 5 days starting with 3 doses before inoculation. Eighteen received placebos. Neither of the antihistamines prevented the development of a cold and had no favorable effect on the severity, the duration of symptoms nor the length of the incubation period.

Treatment of Bacterial Endocarditis

Subacute bacterial endocarditis can usually be cured with penicillin by an intensive 4 to 8 week course of treatment. However, a significant number of patients are refractory to this costly treatment. It would be very desirable to have a more rapid and sure means of eradicating this infection. Clinical evidence would indicate that bacteriostasis is not enough to produce a cure in this disease. This fact is evidenced by the high rate of relapse following the cessation of therapy.

Hunter reported the results of an *in vitro* study of the effect of several antibiotics

—Continued on following page

(Vol. 79, No. 2) FEBRUARY 1951

Therapeutic dosages give therapeutic results

"...recovery from a nutritional deficiency is usually retarded if one depends only upon the vitamins supplied in food." (Spies and Butt in Duncan: Diseases of Metabolism, ed. 2, Phila., Saunders, 1947, p.495)



When you want all of the vitamins indicated in mixed vitamin therapy in the necessary high dosages
...specify THERAGRAN

Each Theragran Capsule contains:

Vitamin A	25,000 U.S.P. Units
Vitamin D	1,000 U.S.P. Units
Thiamine Hydrochloride	10 mg.
Riboflavin	5 mg.
Niacinamide	150 mg.
Ascorbic Acid	150 mg.
Bottles of 50, 100 and 1000	

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"THERAGRAN"—T. M., E. S. SQUIBB & SONS

MODERN THERAPEUTICS

—Continued from preceding page

on the enterococcus, *Streptococcus liquefaciens*, strain L. W. in *J. A. M. A.* [144:524 (Oct. 14, 1950)]. Inhibitory tests showed aureomycin to be more effective than chloramphenicol, penicillin or streptomycin. A combination of penicillin and aureomycin had an additive effect but a combination of penicillin and streptomycin had no additive effect. Since such tests merely measure bacteriostasis the author also studied the killing effect of the antibiotics on large populations of the bacteria and under various circumstances. The results helped to verify his contention that inhibitory tests are often misleading. He found that the combination of penicillin and aureomycin had little bactericidal effect but that penicillin and streptomycin rapidly

reduced the bacterial population until a complete kill was obtained.

These results led the author to treat 3 patients with a single 10 day course of penicillin and streptomycin. At the time of the report, one month after the cessation of treatment, all 3 patients were doing well.

Treatment of Rheumatoid Arthritis with Pregnenolone

Improvement was obtained in 1 of 7 patients with typical and well-established rheumatoid arthritis who were treated with pregnenolone (17-acetoxy- Δ^5 , 20-pregnenolone). Therapy consisted of an initial intramuscular injection of 300 mg. followed by 200 mg. each day for 3 weeks. A control period without therapy for 2 weeks was then followed by a second course of 200 mg. of the hormone, 1 Gm. of ascorbic acid, and 1000 units of hyalu-

—Continued on page 62a

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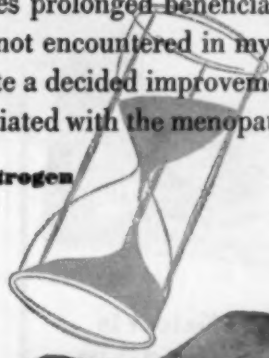
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Elixir: 2.0 mg. per teaspoonful.

Average Dose: 1 to 2 mg. or equivalent daily.

⁴Hafford, A.R.: J.A.M.A., 123, 259, (1943)



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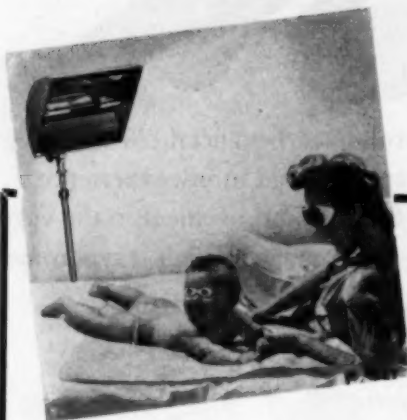


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MODERN THERAPEUTICS

—Continued from page 60a

ronidase daily for 2 weeks. The patient showing improvement received a total of 9 Gm. of pregnenolone. Improvement was manifested by a reduction in joint pain and swelling and in eased movement. The improvement occurred promptly after treatment was started but pain returned during the control period. Improvement was again restored during the second course of therapy and was maintained by injections of 200 mg. of the drug 3 times a week. One of 2 additional patients with rheumatoid arthritis and 1 with ankylosing spondylitis also showed improvement in movement and in pain on daily 200 mg. injections without control periods.

Local reactions occurred in 7 patients. The reaction was sufficiently severe in 1 patient to prevent the administration of the second course. The reaction consisted of the appearance of red, brawny, indurated swellings, tender to the touch, at the injection sites, 3 weeks following the start of first course and 1 week following the second course.

Diphenhydramine for Nocturnal Leg Cramps

Nocturnal leg cramps can usually be prevented by the administration of 0.2 or 0.3 Gm. of quinine or quinidine sulfate at bedtime. Failure of a patient to respond to quinidine led Naide to give 50 mg. of diphenhydramine hydrochloride with subsequent prevention of cramps. Writing in *J. A. M. A.* [142:1140 (1950)] the author stated that 16 additional patients have all been relieved from nocturnal cramps by the administration of the antihistaminic drug. In some of the patients the cramps failed to return when diphenhydramine was discontinued. In

—Continued on page 64a

MEDICAL TIMES

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MODERN THERAPEUTICS

—Continued from page 62a

others the cramps returned upon discontinuance of the drug but were again prevented when therapy was reinstituted. The cause of nocturnal leg cramps is not known. The drowsiness which frequently accompanies the use of this compound helps to keep the patient asleep. The author also pointed out that these cramps occur quite frequently during pregnancy. In such cases obstetricians hesitate to give quinine or quinidine but diphenhydramine has been fairly well established as being safe to administer during pregnancy.

A Mucin-Antacid Combination in the Treatment of Peptic Ulcer

More important than the immediate relief of the symptoms of peptic ulcer is the prevention of recurrences. A series of 125 patients suffering from gastroduodenal ulcer (17 gastric and 108 duodenal) were treated with a product combining aluminum hydroxide, magnesium trisilicate, and gastric mucin (Mucotin) to test the effectiveness of this product in such cases. Treatment consisted of a bland milk diet with 2 to 4 Mucotin tablets taken without water 1 hour before meals, 1 hour after meals, at bedtime, and for night pain. Antispasmodics were given 3 times a day and at bedtime. Patients were advised against alcoholic beverages, coffee, and smoking and to obtain psychiatric consultation whenever indicated. X-rays were taken before the beginning of treatment and at various intervals during therapy. Gastroscopic examinations were performed only when gastric pathology was suspected.

Hardt and Steigmann reported in *Am. J. Dig. Dis.* [3:195 (June 1950)], that the majority of the patients were relieved

—Continued on page 66a

MEDICAL TIMES



Quality and Craftsmanship...



HOW AVAILABLE: GELUSIL* 'Warner,' the safe, effective and reliable antacid preparation is purely local and non-systemic in its action.

TABLETS—each containing magnesium trisilicate, 0.5 Gm (7.5 grains) and dried aluminum hydroxide gel, 0.25 Gm (4 grains): boxes of 50 and 100, and bottles of 1000 tablets.

LIQUID—magnesium trisilicate, 0.5 Gm (7.5 grains) and aluminum hydroxide, 0.25 Gm (4 grains) per 4 cc (1 teaspoonful): bottles of 6 and 12 fluidounces.

¹Seley, S. A.: Medical Management of Pyloric Obstruction Resulting from Peptic Ulcer, *Am. J. Dig. Dis.*, 13:238, 1946.

*T. M. Reg. U. S. Pat. Off.

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Once in a long while a remedy is evolved which meets practically all of the medical requisites: effective, safe, and reliable.

In the management of peptic ulcer or hyperacidic conditions, GELUSIL* 'Warner' by combining comparatively non-reactive aluminum hydroxide gel with magnesium trisilicate, provides the advantages of both:

Prompt action	Prompt relief
Prolonged action	Prolonged relief

without secondary acid rise, chloride depletion, or danger of alkalosis; and, most important, there is practically no constipation.¹

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For ammonia dermatitis (diaper rash) and skin excoriations in incontinent adults. In diarrhea, to prevent irritations caused by acid or liquid stools, and to dissipate the obnoxious putrefactive odor. Becomes actively bactericidal in moisture. Does not cause granulomatous adhesions.

1. Abramson, H.: "Fatal Boric Acid Poisoning in a Newborn Infant," *Pediatrics* 4:719-22, 1949.
2. Ross, C. A. & Conway, J. F.: "The Dangers of Boric Acid," *American Journal of Surgery*, 60:386-395, 1943.
3. Uchman, A. L., et al.: "Talc Granuloma," *Surg. Gyn. & Obst.* 83:531-546, 1946.

6 month female with severe papulo-pustular ammonia dermatitis; cleared in 8 days exclusively with Diaparene Chloride Ointment, one of three widely prescribed dosage forms.

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MODERN THERAPEUTICS

—Continued from page 64a

of their symptoms in the first 7 to 10 days of treatment. One of the intractable cases required surgery and 3 others underwent surgery for accompanying conditions but the other 16 responded as well as the main group of patients although at a somewhat slower rate. Of the 89 patients who were treated for more than 1 year 53 had complete relief with no recurrences. The remainder obtained varying degrees of relief, primarily attributed to food allergies, emotional upsets, and poor cooperation. Twenty-six of the 28 patients under treatment for 9 months to 1 year had complete relief with no recurrences. Complete healing was observed clinically, roentgenologically, and gastroscopically in the 17 patients with gastric ulcer.

The authors were particularly impressed with the good results obtained with the small group of intractable ulcer patients and with the more rapid rate of healing of gastric ulcers under treatment. They suggested that these effects might be due to the coating effect of mucin. The low recurrence rate of 18 per cent under 24 months observation indicated a somewhat greater effectiveness in this respect, for this length of observation.

Vitamin A Absorption from Various Types of Preparations

A study was performed to determine the relative amount of absorption of vitamin A from an aqueous preparation of submicroscopic particle size, an emulsion of 1 to 20 micron particle size, and from an oil preparation of macroscopic particle size. Lewis and Cohan reported the results of clinical and animal experimental tests in *Med. Clinics N. America* [413 (Mar. 1950)].

—Continued on page 68a

Aluminum PENICILLIN*

ORAL TABLETS



Greater effectiveness

Oral therapy with Aluminum Penicillin has proved to be effective in fulminating infections such as pneumonia¹ and in other infections due to streptococci, staphylococci and gonococci.² It rarely causes gastric disturbance or allergic reactions. The patient's bodily and mental comfort is improved because the necessity for frequent injections is eliminated.

The unique advantages of Aluminum Penicillin are that it is not soluble in solutions of acidity corresponding to that of gastric secretion, but is gradually converted into a readily absorbed form in the intestinal tract. These factors provide for maximum utilization of the dosage administered, higher and more prolonged blood levels.³

Sodium benzoate is added because it inhibits the destructive action of intestinal enzymes.⁴

Each tablet contains: Aluminum Penicillin, 50,000 units; sodium benzoate, 0.3 gram. Supplied in vials of 12 tablets.

¹Terry, L. L. and Friedman, M. The Military Surgeon, Vol. 103, No. 5, November, 1948.

²Friedman, M. and Terry, L. L. Southern Medical Journal, Vol. 42, No. 6, June, 1949.

³Bohls, S. W. and Cook, E. B. M. Texas State Journal of Medicine, Vol. 41, November, 1945, p. 342.

⁴Reid, R. D., Felton, L. C. and Pitroff, M. A. Pro. Soc. for Exp. Biol. and Med., Vol. 63, 1946, p. 438.

* Patent applied for.

Oral Tablets



HYNSON, WESTCOTT & DUNNING, INC.
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Each tablet contains:

Veratrum viride	100 mg.
Mannitol hexanitrate	½ gr.
Rutin	10 mg.
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 SINGLE DRUG IS SUFFICIENT FOR THE COMPLETE TREATMENT OF THIS COMPLEX DISEASE.

**for effective
 treatment of
 HYPERTENSION**

Clinical trial package and
 literature on request

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MODERN THERAPEUTICS

—Continued from page 66a

In all tests the aqueous preparation showed higher blood levels, greater liver storage, and lower excretion than either of the other two preparations. In those tests where the emulsion was given the results were better than with the oily preparation.

Vitamin U Speeds Ulcer Healing

The daily consumption of a quart of cabbage juice accelerated the healing of ulcers in 11 patients with gastric ulcers, 42 with duodenal ulcers, and 2 with jejunal ulcers. The factor present in the juice was named vitamin U by Cheney in his report in *J. Am. Dietetic Assoc.* (26:668 (1950)). Three patients had to undergo surgery. The crater healing time averaged 11.7 days in 28 patients with duodenal ulcers as compared with an average of 3 to 6 weeks in a control series of cases. Improvement was judged upon the basis of symptomatic relief and x-ray findings.

Some patients developed gas, stomach cramps, bloating, and constipation during the first 2 to 5 days of juice treatment, but this usually was relieved by alkali therapy.

The juice was extracted from fresh green cabbage heads, preferably spring and summer heads, for the yield of juice is much higher. Ordinarily 4 to 5 pounds of cabbage produce a quart of juice using an electric centrifuge juicer. The author said that addition of celery juice, pineapple or citrus fruit juices made the cabbage juice more palatable for some people.

Sulfonamides and Penicillin Effect on Gram Negative Organisms

The organisms tested in this study were *Bacterium coli* and *Salmonella typhi*. In *in vitro* tests 0.1 mg. per cc. of sulfadiazine, sulfapyrazine, sulfathiazole, sulfa-

—Concluded on page 70a

MEDICAL TIMES

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Anemia Therapy



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VITAMIN B12*..... 2 mcg.
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Cobalt..... 0.1 mg.
Copper..... 1 mg.
Molybdenum..... 0.2 mg.
Boron..... 0.07 mg.
Calcium..... 66 mg.
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Manganese..... 0.033 mg.
Magnesium..... 2 mg.

Phosphorus..... 51 mg.
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Zinc..... 0.4 mg.
Vitamin A..... 5000 USP Units
Vitamin D..... 500 USP Units
Thiamine HCl..... 2 mg.
Riboflavin..... 2 mg.
Pyridoxine HCl..... 0.1 mg.
Niacinamide..... 10 mg.
Pantothenate Ca..... 0.33 mg.

With other B-Complex
Factors from Liver

**An oral concentrate assayed microbiologically.*

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MODERN THERAPEUTICS

—Concluded from page 68a

mezathine and sulfamerazine were tried alone and in combination with penicillin in dilutions ranging from 100 down to 1.56 units per cc. Sulfamezathine was less effective than the first 3 and sulfamerazine was least effective. When any one of these compounds was combined with penicillin there was a marked synergism of effect. Tables were given to tabulate the results. Concentrations of penicillin alone or of any one of the sulfonamides which did not suppress growth showed complete suppression when the agents were combined. As an example; 6.25 units of penicillin per cc. did not suppress growth of *B. coli* at all but when combined with any one of the sulfonamides, in a con-

centration of 0.1 mg. per cc., none of which prevented growth alone, there was complete suppression of growth.

The *in vivo* effectiveness of these compounds was tested on the basis of the survival time of mice infected with *B. coli*. A dose of 2000 units of penicillin had only a small effect on prolonging the survival times of infected mice. Each of the sulfonamides showed a prolongation of survival time of varying length. When combined with penicillin there was a marked evidence of synergism. As an example; 0.5 mg. of sulfamezathine produced an average survival time of 1.7 days for each infected mouse. Combined with penicillin this was increased to 5.5 days.

Writing in *J. Pharm. Pharmacol.* [2:82 (1950)] El Borolossy and Buttle reported that corresponding tests with *Salmonella typhi* produced similar results.

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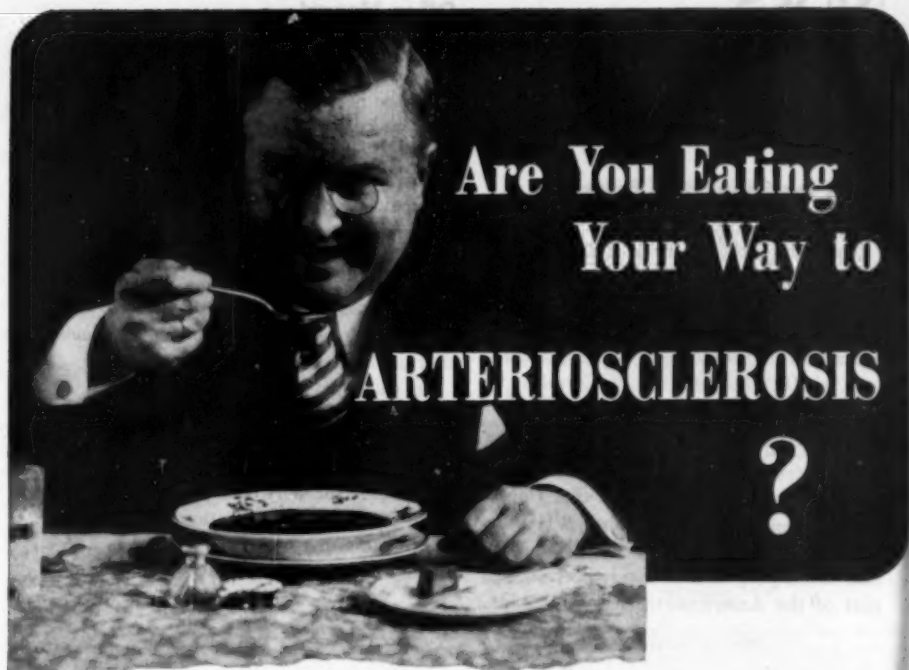
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THIS IS NOT OUR QUESTION, DOCTOR!

It is the title of a four-page article in a recent issue of the *Saturday Evening Post*, which was read by many of your patients.

The experiments cited are provocative and may prove extremely valuable to medicine. The article deals primarily with the recent studies identifying not simple hypercholesterolemia but abnormally large cholesterol-fat-protein molecules in the blood stream with the development of atherosclerosis; and prevention of atherosclerosis, (by reduction of these great particles rather than reduction of cholesterol content per se).

However questionable the value of presenting experimental studies to lay readers may be, your coronary patients and many others over (Vol. 79, No. 2) FEBRUARY 1951

forty are sure to ask you questions about it. A concise summary of the original experimental work and a handy table of high-cholesterol foods and their low-cholesterol substitutes, is available. This may prove useful in correcting any misconceptions your patients may have gained from their reading.

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NEWS AND NOTES

Calls for Support of Better World Health Programs

There is likely to be a great demand for qualified American medical personnel to aid in the overseas health programs being conducted by the World Health Organization of the United Nations, according to Dr. Edward J. McCormick of Toledo, Ohio.

Dr. McCormick, a member of the Board of Trustees of the American Medical Association and a member of the United States delegation to the third WHO assembly in Geneva, Switzerland, last May, said these programs demand the full support of the American medical profession.

Hospital Staff and Office Manual

The recent publication of the HOSPITAL STAFF AND OFFICE MANUAL, the new pocket size refresher, by T. M. Larkowski, Professor of Clinical Surgery, Stritch School of Medicine, Loyola University, Chicago, Ill. and A. R. Rosanova, Clinical Instructor, University of Illinois Medical School, answers a need that has been apparent for many years in the medical field. Too often physicians have to search through many textbooks to find practical answers to the many problems that confront them.

In this one single volume, the size of which readily fits in either the pocket or bag, the authors provided an instant and practical review of all phases of medical practice. Not only is there a quick refresher on the therapeutics of regularly seen conditions, but also included is a refresher on the surgical technics of most

—Continued on page 74a

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MOUTHWASH AND GARGLE

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Tangy
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ACTIVE INGREDIENTS
Zinc Chloride - Menthol
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The distinctive cleansing
and invigorating action of
Lavoris combined with its
pleasant, refreshing taste,
make it most welcome in
the sickroom.

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*"Joint" sometimes
means...*



In the dictionary

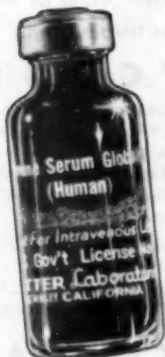
*"Joint" sometimes
means...*



On gamma globulin
labels

(human)
*sometimes means
placental blood*

(human) — CUTTER
*always means
100% venous blood*



100% Venous Blood Means:

1. **MINIMAL REACTIONS**—Cutter fractionation process produces a highly concentrated gamma globulin with resultant small dosage, plus crystal clear purity to hold reactions to a minimum.
2. **CRYSTAL CLARITY**—Look at the highly purified homologous protein in the Cutter vial. See the crystal clear, hemolysis-free gamma globulin.
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As a product of choice for measles modification or prevention,

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Immune Serum Globulin

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fractionated entirely from human venous blood*

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Producers of concentrated 2.5 cc. Hypertussis®—specific for passive immunity against whooping cough.

NEWS AND NOTES

—Continued from page 72a

operations, routine hospital technics, laboratory procedures, electrocardiography, x-ray technics, and practically every other allied science.

Even though pocket size, the book contains 450 pages and over 150 illustrations; yet it is priced at only \$4.95. The publishers are Romaine Pierson Publishers, Inc., 680 Northern Boulevard, Great Neck, N. Y.

Pre- and Postdoctoral Fellowships Offered

The National Foundation for Infantile Paralysis announces the availability of a limited number of predoctoral and postdoctoral fellowships to candidates whose interests are research and teaching in the fields related to the problems of polio-

myelitis such as virology, biochemistry, biophysics, orthopedics, pediatrics, neurology and epidemiology.

Predoctoral fellowships cover a period of one year, but may be considered for renewal. Postdoctoral fellowships cover a period of one to three years with the privilege of renewal depending on the candidate's previous training and his program. Stipends to the fellows will range from \$1200-\$1800 a year plus tuition for the predoctoral level, to \$3600-\$7000 a year for the postdoctoral candidates. In both instances, marital and dependency status is considered in determining the individual stipend. Institutions which accept fellows will receive additional compensation.

Eligibility requirements include United States citizenship and sound health. Predoctoral applicants must be candidates for an M.D., Ph.D. or its equivalent. Postdoctoral applicants must have an M.D.,

—Continued on page 76a

The "Dry Treatment"



Relief in over 90% of trichomonas cases treated with

TRYCOGEN

The "dry treatment" of leukorrhea, employing TRYCOGEN is clean, simple, non-staining. In many cases, one TRYCOGEN Insert placed in the vaginal vault every night will show results within a few days.

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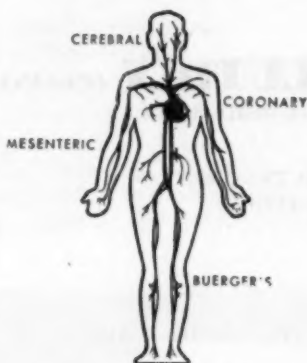
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Frequency of administration is reduced with improvement and gradually withdrawn when symptom-free.

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NEWS AND NOTES

—Continued from page 74a

Ph.D. or its equivalent.

Selection of candidates is made by a Fellowship Committee composed of leaders in the fields of research and professional education. Successful candidates will be designated a "Fellow of the National Foundation for Infantile Paralysis."

Complete information concerning qualifications and applications may be obtained from: Division of Professional Education, National Foundation for Infantile Paralysis, 120 Broadway, New York 5, New York.

**World Medical Assoc. Elects
Three New Board Members**

Robert B. Smallwood, president of Thomas J. Lipton, Inc., Carleton H. Palmer, president of E. R. Squibb & Sons, Inc., and James J. Kerrigan, vice-president of Merck & Co., Inc. have been elected to the Board of Directors of the United States Committee, Inc. of the World Medical Association at a recent meeting of the Board, it was announced recently at Association headquarters at 2 East 103rd Street.

The United States Committee is a non-profit organization whose aim is to support the activities of the World Medical Association, an organization of the national medical associations of forty countries working to further medicine, health and peace throughout the world.

ACTH Conference

Nearly 300 men and women engaged in the clinical testing of ACTH gathered in Chicago, Ill. recently at the invitation of Armour Laboratories, principal producer of the wonder hormone, to exchange information and plan for future research

—Continued on page 78a

MEDICAL TIMES

in rheumatoid arthritis

*effective
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Solution of Colloidal Sulfur Compound
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intramuscularly at 3 to
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gradually increased to 3 cc.

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(Vol. 79, No. 2) FEBRUARY 1951

77a



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with no undesirable side effects for the patient, helps Nature relieve coughs when not due to organic disease.

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Trial packages on request.

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NEWS AND NOTES

—Continued from page 76a

with the drug.

The program of ninety-five papers reflected the two main lines of investigation being carried on with respect to ACTH—the task of determining which diseases of the human race ACTH will control and how to use it for each, and the equally important task, made possible only since ACTH was given to the medical profession by Armour, of solving the mystery of the function of the adrenal glands.

ACTH—for which Armour Laboratories' brand name is Aethar—is the initial-name of the adrenocorticotrophic hormone from the pituitary gland. The long name means that it stimulates the outer shell of the adrenal glands to produce its own hormones, which are essential to life and health. However the important relationship between the pituitary gland in the head and the adrenals over the kidneys, and of both to the general health, is not yet understood.

It was learned early that ACTH will control such hitherto intractable conditions as arthritis, rheumatic fever, the allergies, and various skin disorders. Reports at the conference covered its use in premature babies, in burns, in skin grafting, in relieving the pain and prostration of cancer, in snakebite, in anemia and in surgical shock.

The first paper on the program, presented by Martin Sonenberg, M. D., Albert S. Keston, Ph.D., and William L. Money, Ph.D., of Memorial Hospital, New York, told of the studies of the action of radioactive ACTH.

A paper by a research group from Cornell University, New York, told of the striking stimulus the hormone gives to premature babies. There was a remarkable increase in their vigor, as evidenced by the strength of their crying, and they

—Continued on page 80a



A patient who had had psoriasis for 15 years, with extensive lesions on the forearms, was observed carefully under treatment with RIASOL.

In 7 weeks all of the patches cleared completely. The redness, scales and elevated papules disappeared. This was only one of the many cases successfully treated with RIASOL.

A clinical test of psoriasis treated with RIASOL showed clearing of or improvement in the cutaneous lesions in 76% of cases. The remissions are prolonged with this treatment.

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RIASOL for PSORIASIS

NEWS AND NOTES

—Continued from page 78a

developed voracious appetites, the report said.

Equally important was the fact that Acthar reversed a peculiar defect found in such premature babies. The defect involves the metabolism of tyrosine and phenylalanine, amino acids, when the babies are on a high-protein, ascorbic acid free diet. Ascorbic acid (Vitamin C) corrects the defect immediately. Acthar, it was found, corrects it more slowly. The reason for the difference in action, when learned, will provide another clue as to the action of the hormone and its relation to the vitamin.

The work was reported by a group consisting of Dr. S. Levine, Dr. H. Barnett, Dr. C. Bierman and Dr. H. McNamara.

Four workers from the University of Minnesota school of medicine at Minneapolis told of using the hormone in treating the acute phase of burn cases in children.

A seven-year old girl, with the lower half of her body burned, they reported, had run a fever for four weeks and refused food so that she had to be fed through a tube. Immediately after treatment with Acthar was begun, she became co-operative, her temperature dropped, and she developed an appetite. Skin grafts then became possible and they took well.

The second case was that of a three-year old boy with 50 per cent of his body covered by third degree burns, who had been irrational with a fever ranging from 103 to 106 degrees for five days.

Acthar reduced the fever within a few hours and eliminated the pain. When the

—Continued on page 82a

Through The Menstrual Years of Life-

THE frequency with which the menstrual life of so many women is marred by functional aberrations that pass the borderline of physiologic limits, emphasizes the importance of an effective uterine tonic and regulator in the practicing physician's armamentarium.

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Archives of Dermatology and Syphilology,
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NEWS AND NOTES

—Continued from page 80a

hormone was withheld to see whether it was responsible for the improvement, his symptoms returned quickly and so severely that he almost died before he could be restored with Acthar. Later skin grafts produced healing of the burned areas.

The report was made by Dr. Forrest H. Adams, Dr. Elden Berglund, Dr. Samuel Balkin and Dr. Tague Chisholm of the Minnesota school of medicine.

A four-man Duke University research team emphasized the astonishing effect of Acthar in promoting successful skin grafts.

The four—Dr. Berry F. Edwards, Dr. Frank L. Engel, Dr. T. B. Schwartz and Dr. Samuel P. Martin, all of Durham, N. C.—reported the case of a 9-year old boy, badly burned four and a half years ago. Forty-two attempts at covering his burns with grafted skin had failed. The transplanted skin always began to melt in three days and vanished in a week, they reported. Meanwhile, in his long suffering, he had had eighty-five blood transfusions.

After two day's preliminary build-up with Acthar, a new series of postage-stamp sized bits of skin was placed on some of his chest burns, experimentally, while the hormone was continued. Eighty per cent of them survived. Later two other skin grafting procedures were also successfully carried out. Withholding Acthar immediately produced sloughing of the grafts, demonstrating that the hormone was responsible for the success of the operation. In addition, the researchers reported, the granulations which had formed on some of the less severe burns smoothed out and began to grow new skin at the edges.

A single injection of Acthar completely and quickly counteracts the poison of the black widow spider and the deadly cop-

—Concluded on page 84a

MEDICAL TIMES



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NEWS AND NOTES

—Concluded from page 82a

perhead snake, it was reported by Dr. Harley E. Cluxton, Jr., director of medical research for Armour Laboratories, sponsor of the conference. Dr. Cluxton was formerly in practice in Savannah, Ga., where the cases occurred.

The first case was that of a housewife of 32, three months pregnant, who was bitten on the hand by a black widow spider in her Savannah garden. Shortly afterward, she was seized with the characteristic manifestations of a severe reaction from black widow spider venom, including severe abdominal cramps. It was feared that she would lose her baby. A single injection of Acthar relieved her pain, reduced the swelling and she was able to return home in a few hours, and remained in good health.

The experience, Dr. Cluxton said, suggested to various Savannah physicians that the hormone might also be valuable in treating snakebite, a fairly common accident in that area, and it was decided to try it on the next case reported.

Not long afterward another woman stepped on a copperhead snake in her garden in the Savannah area and was bitten on the ankle.

The victim arrived two hours later at a Savannah hospital, where Acthar was administered. The leg was swelling rapidly and was extremely painful, but the hormone stopped the pain and produced complete recovery in a few hours, Dr. Cluxton said.

Dr. Cluxton pointed out that single cases do not count statistically and that many variables must be taken into account before positive assertions can be made regarding the value of the hormone in such cases of poisoning. Nevertheless, he thought it desirable to call the cases to the attention of the medical profession, so that the possible value of the treatment can be thoroughly worked out.

The physician added that a series of tests on laboratory animals is being carried on by Armour Laboratories, using the snake venom and hormone under varying conditions of time and dosage, to try to establish a pattern of their action.

Three Doctors Are Rotary International Governors

Three physicians—G. E. Norwood of San Marino, California; Stanford M. Heron of Jackson, Tennessee and J. Morris Reese of Baltimore, Maryland—are District Governors of Rotary International, world-wide service organization, for

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—Continued on page 88a



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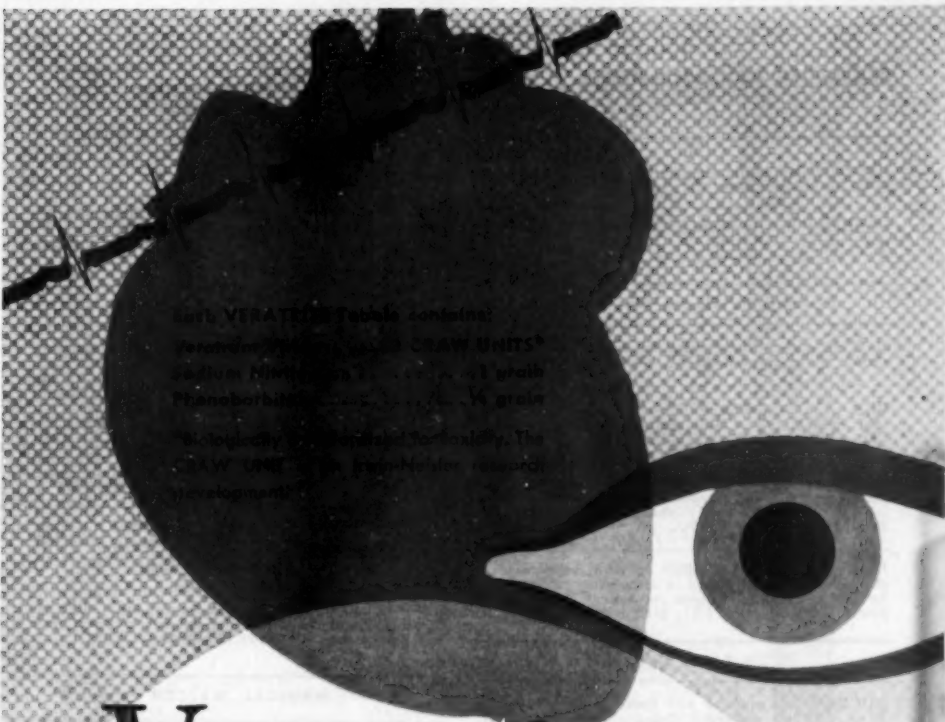
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—Continued from page 88a

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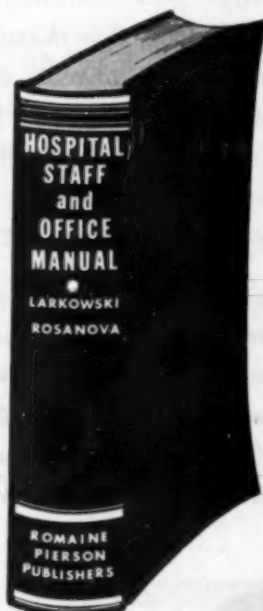
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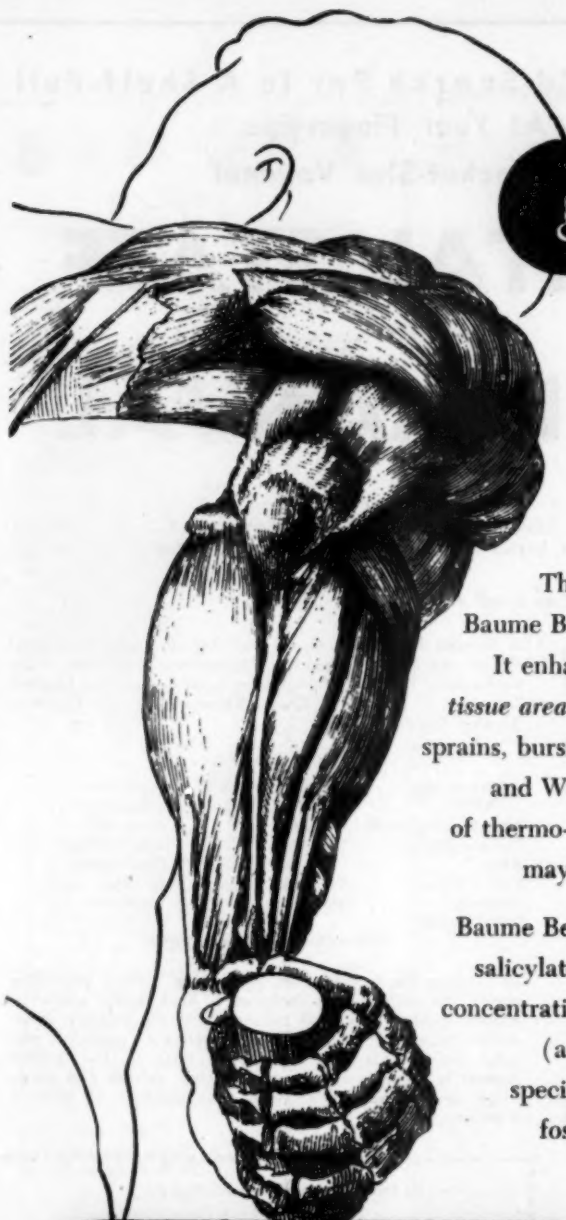
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1. Lange, K., and Weiner, D.: J. Invest. Dermat. 12:263 (May) 1949.

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